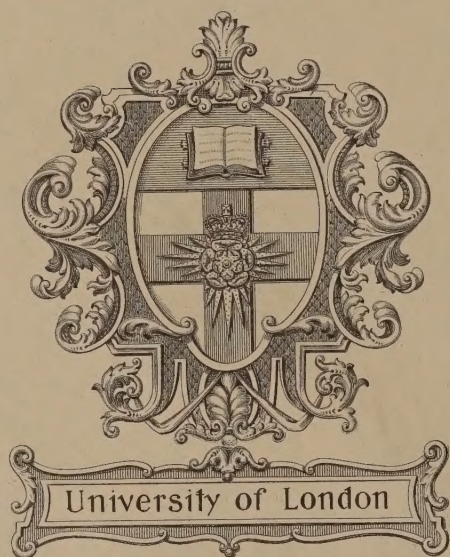
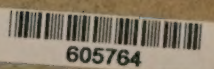






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ACCOUNTS AND PAPERS:

FORTY-EIGHT VOLUMES.

—(16.)—

EAST INDIA (COTTON).

Session

5 February — 28 July 1863.

VOL. XLIV.

1863.

EAST INDIA (COTTON).

RETURN to an Address of the Honourable The House of Commons,
dated 10 February 1863;—for,

“ COPY of any CORRESPONDENCE, from the 1st day of January 1861 to the present Time, between the Secretary of State for *India* and the Governor General or other Persons in *India*, on the subject of COTTON CULTIVATION in *India*, and the Prospects of SUPPLIES of that Article to this Country during the present Year.”

[Papers relating to the Navigation of the Godavery (Nos. 155 and 453 of 1862), and the Improvement of the Harbour of Sedashegur (No. 81 of the present Session), have already been presented.]

India Office, }
24 March 1863. }

FRANCIS W. PRIDEAUX,
Secretary, Revenue Department.



(*Mr. John Benjamin Smith.*)

Ordered, by The House of Commons, to be Printed,
25 March 1863.

TABLE OF CONTENTS

RETURN to an Address of the Honorable the House of Commons
 dated 10 February 1891

	PAGE
I.—INDIA	1
II.—MADRAS	253
III.—BOMBAY	369
IV.—HOME CORRESPONDENCE	505

TABLE OF CONTENTS.

I.—INDIA.

No.	FROM	To	DATE.	SUBJECT.	PAGE.
1	Government of India - Resident at Hyderabad -	Secretary of State - Secretary to Government of India.	16 June 1860, No. 46 18 May „ - -	Culture of Exotic Cotton, Hyderabad Ditto - ditto - - -	1 1
	List of Samples of Cotton grown in Hyderabad and Shorapore.		- - - - -	- - - - -	6
	Samples from West Berar -	- - - - -	- - - - -	- - - - -	6
	Samples from Raichore Doab -	- - - - -	- - - - -	- - - - -	7
	Under Secretary, Go- vernment of India.	Resident at Hyderabad	13 June 1860 - -	- - - - -	7
	Ditto - - -	Agricultural Society, Calcutta.	13 June „ - -	- - - - -	7
	Secretary to Government of India.	Resident at Hyderabad -	20 April 1857 - -	- - - - -	7
	Resident at Hyderabad -	Secretary to Government of India.	18 Nov. „ - -	- - - - -	8
	Commissioner of Hyder- abad.	First Assistant Resident, Hyderabad.	11 Nov. „ - -	- - - - -	8
	First Class Assistant Commissioner.	Officiating Deputy Com- missioner.	20 Nov. „ - -	- - - - -	9
	Officiating Under Secre- tary, Government of India.	Secretary, Bengal Cham- ber of Commerce.	14 Dec. „ - -	- - - - -	10
	Secretary, Bengal Cham- ber of Commerce.	Secretary to Government of India.	15 Jan. 1858 - -	- - - - -	11
	Secretary to Government of India.	Resident at Hyderabad -	2 Feb. „ - -	- - - - -	11
2	Government of India - Resident at Hyderabad -	Secretary of State - Secretary to Government of India.	8 Oct. 1860, No. 135 1 June „ - -	Culture of Exotic Cotton, Hyderabad - - - - -	11 12
	Under Secretary, Go- vernment of India.	Secretary to Agricul- tural Society.	7 July „ - -	- - - - -	12
	Secretary to Agricul- tural and Horticultu- ral Society.	Secretary to Government of India	26 Sept. „ - -	- - - - -	12
3	Government of India - Secretary, Agricultural and Horticultural So- ciety.	Secretary of State - Deputy Secretary, Go- vernment of India.	8 Mar. 1861, No. 23 23 Feb. „ - -	Culture of Exotic Cotton, Hyderabad - - - - -	13 13
	Report on Samples of Cotton	- - - - -	- - - - -	- - - - -	13
4	Secretary of State -	Government of India -	8 May 1861, No. 11	- - - - -	14
5	Ditto - - -	Ditto - - -	8 July „ No. 17	Advising Mr. Haywood's Mission	14
6	Government of India -	Secretary of State -	2 Mar. „ No. 4	Resolution for facilitating Supply of Cotton.	15
	Resolution - - -	- - - - -	28 Feb. „ - -	- - - - -	15
7	Extract, Bengal Revenue	Consultations - -	Mar. „ - -	- - - - -	17
	Under Secretary, Go- vernment of Bengal.	Secretary, Board of Re- venue, Lower Pro- vinces.	6 Mar. „ - -	- - - - -	17
	Ditto - - -	Secretary, Bengal Cham- ber of Commerce.	6 Mar. „ - -	- - - - -	17
	Secretary, Bengal Cham- ber of Commerce.	Under Secretary to Go- vernment of Bengal.	21 Mar. „ - -	- - - - -	17
8	Extract, India Revenue	Consultations - -	April „ - -	- - - - -	18
	Secretary to Government of North West Pro- vinces.	Secretary to Govern- ment, India.	29 Mar. „ - -	- - - - -	18
	Ditto - - -	Commissioners - -	29 Mar. „ - -	- - - - -	21
	Secretary to Govern- ment, India.	Secretary to Govern- ment, North West Provinces.	22 April „ - -	- - - - -	23

No.	FROM	To	DATE.	SUBJECT.	PAGE.
9	Extract, India Revenue Secretary to Government of India.	Consultations - - Secretary to Government North Western Provinces.	May 1861 - - 11 May " - -	- - - - - - - - - -	23 23
	Extract, Letter from Mr. Secretary to Government of India.	P. Saunders - - Mr. P. Saunders - -	26 April " - - 11 May " - -	- - - - - - - - - -	24 24
	Secretary to Government North Western Provinces.	Secretary to Government, India.	19 April " - -	- - - - -	24
	Commissioner of Allahabad.	Secretary to Government North Western Provinces.	8 April " - -	- - - - -	24
10	Secretary of State -	Government of India -	25 July " No. 20	- - - - -	25
11	Government of India -	Secretary of State -	1 June " No. 36	Value of produce of land irrigated by the Western Jumna canals during 1859-60.	26
12	Secretary of State -	Government of India -	16 Aug. " No. 43	- - - - -	26
13	Government of India -	Secretary of State -	27 June " No. 41	Cultivation of cotton in Nagpore, and construction of roads to facilitate its transport.	27
	Commissioner of Nagpore.	Secretary of Government of India.	4 June " - -	- - - - -	27
	Deputy Commissioner -	Commissioner of Nagpore.	20 Sept. 1860 -	- - - - -	29
	Superintendent of Survey and Settlement.	Deputy Commissioner of Nagpore.	3 April 1861 -	- - - - -	30
	Statement, showing the extent of cotton cultivation in the Pergunnahs of the Nagpore District.	- - - - -	- - - - -	- - - - -	31
	Secretary to Government of India.	Commissioner of Nagpore.	21 June 1861 -	- - - - -	31
	Sketch Map of Roads, Nagpore Province, to face page 32.				
14	Secretary of State -	Government of India -	24 Sept. 1861, No. 48	- - - - -	32
15	Government of India -	Secretary of State -	13 July " No. 46	Nagpore cotton and roads -	32
	Memorandum on Roads in Province of Nagpore -	- - - - -	- - - - -	- - - - -	34
	Two Maps, to face page 36.	- - - - -	- - - - -	- - - - -	
16	Secretary of State -	Government of India -	16 Oct. 1861, No. 55	- - - - -	36
17	Ditto - -	Ditto - -	16 July " No. 34	Works calculated to promote supply of cotton.	37
18	Ditto - -	Ditto - -	25 July " No. 21	Travelling expenses of Mr. Forbes -	38
	Manchester Cotton Company.	Secretary of State -	28 June " - -	- - - - -	38
	Under Secretary of State.	Manchester Cotton Company.	19 July " - -	- - - - -	38
19	Government of India -	Secretary of State -	6 July " No. 11	Production of cotton in the lower provinces.	39
	Junior Secretary to Government of Bengal.	Secretary to Government of India.	17 June " - -	- - - - -	39
	Officiating Secretary to Board of Revenue.	Secretary to Government of Bengal.	10 May " - -	- - - - -	40
	Junior Secretary to Government of Bengal.	Officiating Secretary to Board of Revenue.	17 June " - -	- - - - -	45
	Officiating Secretary to Board of Revenue.	Secretary, Government of Bengal.	31 May " - -	- - - - -	46
	Commissioner of Patna.	Secretary to Board of Revenue.	9 May " - -	- - - - -	47
	Commissioner of Chota, Nagpore.	Ditto -	11 May " - -	- - - - -	51
	Junior Assistant Commissioner, Palarnow.	Senior Assistant Commissioner, Lohurduggah.	17 April " - -	- - - - -	51
	Resolution - - -	- - - - -	26 July " - -	- - - - -	52
	Secretary to Government of India.	Junior Secretary to Government of Bengal.	3 July " - -	- - - - -	52
	Agents to Cotton Supply Association.	Secretary to Government of India.	20 June " - -	- - - - -	53
	Secretary, Cotton Supply Association.	Agents, Cotton Supply Association.	15 May " - -	- - - - -	53
	Resolution passed at a Meeting of Cotton Supply Association.	- - - - -	7 May " - -	- - - - -	55
	Petition from the Cotton Trade to the House of Commons.	- - - - -	- - - - -	- - - - -	55

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
	Secretary to Government of India.	Agents, Cotton Supply Association.	2 July 1861 -	- - - - -	56
	Agents, Cotton Supply Association.	Secretary to Government of India.	3 July „ -	- - - - -	57
20	Secretary to Government of India.	Secretary to Government of Madras and Bombay.	23 July „ -	- - - - -	58
	Commissioner of Rajahy.	Secretary to Board of Revenue.	19 June „ -	- - - - -	58
	Officiating Collector of Bograh.	Commissioner of Rajahy.	25 Apr. „ -	- - - - -	58
	Extract, Collector of Maldah.	Ditto - - -	6 May „ -	- - - - -	60
	Commissioner of Tenasserim and Martaban.	Secretary to Board of Revenue.	30 May „ -	- - - - -	61
21	Government of India -	Secretary of State -	25 July „ No. 12	Compilation of a hand-book from the public records in each Presidency.	62
	Resolution - - -	- - -	22 July „ -	- - - - -	62
22	Secretary of State -	Government of India -	8 Oct. „ No. 25	- - - - -	63
23	Government of India -	Secretary of State -	13 Aug. „ No. 13	Offer of prizes for the production of cotton.	63
	Secretary to Government of India.	Secretaries to Government of— Bombay - - - Madras - - - North Western Provinces - Punjab - - -	10 Aug. „ -	- - - - -	64
	Resolution - - -	- - -	9 Aug. „ -	- - - - -	64
24	Government of India -	Secretary of State -	1 Oct. „ No. 17	Engagement of the services of Mr. P. Saunders.	65
	Secretary to Government, Bengal.	Secretary to Government of India.	26 Mar. „ -	- - - - -	66
	Secretary to Bengal Chamber of Commerce.	Under Secretary to Government of Bengal.	21 Mar. „ -	- - - - -	66
	Under Secretary to Government of India.	Secretary to Government of Bengal.	13 Apr. „ -	- - - - -	67
	P. Saunders, Esq. -	Secretary to Government of India.	7 June „ -	- - - - -	67
	Saunders' Report on the Doab.	Cotton Districts of the	1 Sept. „ -	- - - - -	68
25	Secretary of State -	Government of India -	3 Dec. „ -	- - - - -	80
26	Government of India -	Secretary of State -	20 Aug. „ -	Improvement of communications leading to cotton growing districts in Bengal.	81
	Special Narrative -	Government of Bengal	3 Aug. „ -	- - - - -	81
	Commissioner of Patna	Secretary to Government, Bengal.	30 May „ -	- - - - -	82
	Chief Engineer, Lower Provinces.	- - -	25 June „ -	- - - - -	83
	Superintending Engineer, South Eastern Circle.	Chief Engineer, Lower Provinces.	23 Mar. „ -	- - - - -	85
	Superintending Engineer, Behar Circle.	Commissioners of Patna and Chota, Nagpore.	20 Mar. „ -	- - - - -	85
	Ditto - - -	- - -	19 Apr. „ -	- - - - -	85
	Commissioner of Chota, Nagpore.	- - -	9 Apr. „ -	- - - - -	86
	Commissioner of Patna	Magistrate of Shahabad	9 May „ -	- - - - -	87
	Ditto - - -	Superintending Engineer, Behar Circle.	9 May „ -	- - - - -	87
	Superintending Engineer, Northern Circle.	Chief Engineer, Lower Provinces.	30 Apr. „ -	- - - - -	87
	Superintending Engineer, Presidency Circle.	Ditto - - -	18 May „ -	- - - - -	89
	Officiating Superintending Engineer, Cuttack Circle.	Chief Engineer and Secretary to Government, Bengal.	20 May „ -	- - - - -	90
	Report by Mr. F. Bond on existing communications, &c., Cuttack.	- - -	15 Apr. „ -	- - - - -	93
	Executive Engineer, Raipore Road Division.	Officiating Superintending Engineer, Cuttack Circle.	25 Mar. „ -	- - - - -	94
	Secretary to Government of Bengal.	Superintending Engineer, Behar Circle.	3 July „ -	- - - - -	94

No.	FROM	To	DATE.	SUBJECT.	PAGE.
	Secretary to Government, Bengal.	Commissioner, Patna Division.	3 July 1861 - -	- - - - -	95
	Ditto - - -	Superintending Engineer, Northern Circle.	3 July " - -	- - - - -	95
	Ditto - - -	Superintending Engineer, Cuttack Circle.	3 July " - -	- - - - -	95
	Ditto - - -	Superintendent of Darjeeling.	3 July " - -	- - - - -	96
	Chief Engineer - -	- - - - -	25 June " - -	- - - - -	96
	Superintending Engineer, Burdwan Circle.	Chief Engineer, Lower Provinces.	13 June " - -	- - - - -	96
	Superintending Engineer, Assam Circle.	Ditto - - -	7 June " - -	- - - - -	97
	Secretary to Government of Bengal.	Officiating Commissioner of Burdwan.	5 July " - -	- - - - -	98
	Officiating Superintendent of tributary Mehals, Cuttack.	Secretary to Government, Bengal.	27 June " - -	- - - - -	98
	Officiating Secretary to Government of Bengal.	Superintending Engineer, Cuttack Circle.	18 July " - -	- - - - -	98
	Ditto - - -	Officiating Superintendent of tributary Mehals, Cuttack.	18 July " - -	- - - - -	99
	Appendix (A.)—Plan, facing page 83.				
	Appendix (B.)—Plan, facing page 94.				
27	Secretary of State -	Government of India -	- - - - -	- - - - -	99
28	Extract, Bengal Revenue	Consultations - -	Apr. 1861 - -	Application of Collector of Kainroop for cotton seed.	99
	Secretary to Board of Revenue.	- - - - -	2 Apr. " - -	- - - - -	99
	Commissioner of Assam	- - - - -	23 Mar. " - -	- - - - -	100
	Collector of Kainroop -	Commissioner of Assam	23 Mar. " - -	- - - - -	100
	Junior Secretary, Government Bengal.	Secretary Bengal Chamber of Commerce.	11 Apr. " - -	- - - - -	100
	Secretary Bengal Chamber of Commerce.	Junior Secretary, Government Bengal.	18 Apr. " - -	- - - - -	100
	Junior Secretary, Government Bengal.	Secretaries, Manchester Cotton Supply Association.	22 Apr. " - -	- - - - -	100
29	Extract, Bengal Revenue	Consultations - -	May " - -	- - - - -	100
	Agents, Cotton Supply Association.	Junior Secretary, Government Bengal.	24 Apr. " - -	- - - - -	100
	Junior Secretary, Government Bengal.	Officiating Secretary, Board of Revenue.	18 May " - -	- - - - -	101
30	Extract, Bengal Revenue	Consultations - -	Apr. " - -	Distribution of New Orleans cotton seed.	101
	Commissioner of Nuddea Division.	Secretary, Government of Bengal.	13 Apr. " - -	- - - - -	101
	Junior Secretary, Government Bengal.	Commissioner of Nuddea	26 Apr. " - -	- - - - -	101
31	Extract, Bengal Revenue	Consultations - -	17 Apr. " - -	Deputation of Mr. P. Saunders to cotton districts.	101
	Secretary to Government Bengal.	Secretary to Bengal Chamber of Commerce.	17 Apr. " - -	- - - - -	101
	Circular from Under Secretary to Government of Bengal, to Commissioners.	- - - - -	17 Apr. " - -	- - - - -	102
32	Extract, Bengal Revenue	Consultations - -	May " - -	- - - - -	102
	Secretary to Chamber of Commerce.	Secretary to Government, Bengal.	27 Apr. " - -	- - - - -	102
	P. Saunders, Esq. -	Secretary to Chamber of Commerce.	24 Apr. " - -	- - - - -	102
	Secretary to Bengal Chamber of Commerce.	Secretary to Government of Bengal.	23 May " - -	- - - - -	103
	Secretary to Government, Bengal.	Secretary to Bengal Chamber of Commerce.	31 May " - -	- - - - -	103
33	Extract, Bengal Revenue	Consultations - -	June " - -	- - - - -	103
	Secretary to Bengal Chamber of Commerce.	Secretary to Government, Bengal.	25 May " - -	- - - - -	103
	Under Secretary to Government, Bengal.	Postmaster General of Bengal.	4 June " - -	- - - - -	103

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
34	Extract, Bengal Revenue	Consultations - -	July 1861 - -	- - - - -	103
	P. Saunders, Esq. -	Secretary to Govern- ment, Bengal.	12 July " - -	- - - - -	103
	Junior Secretary, Go- vernment of Bengal.	P. Saunders, Esq. -	24 July " - -	- - - - -	105
35	Extract, Bengal Revenue	Consultations - -	May " - -	Cultivation of cotton, Southal Pergunnahs -	105
	Deputy Commissioner, Southal Pergunnahs.	Officiating Commis- sioner, Bhargulpore.	13 April " - -	- - - - -	105
	P. Saunders, Esq. -	Secretary to Govern- ment of Bengal.	20 May " - -	- - - - -	106
	Report on Samples of Cotton	- - - - -	- - - - -	- - - - -	107
36	Extract, Bengal Revenue	Consultations - -	May " - -	Offer of a Premium for Essay on Cul- ture of cotton from foreign seed.	107
	Secretary, Agricultural and Horticultural Society.	Secretary to Govern- ment, Bengal.	20 April " - -	- - - - -	107
	Secretary, Government Bengal.	Secretary Agricultural and Horticultural So- Society.	9 May " - -	- - - - -	107
	Extract, Bengal Revenue	Consultations - -	June " - -	Culture of cotton in Arracan -	107
37	J. P. Langlois, Esq. -	Private Secretary to Government, Bengal.	28 March " - -	- - - - -	107
	Junior Secretary, Go- vernment of Bengal.	J. P. Langlois, Esq. -	25 April " - -	- - - - -	108
	Ditto - - -	Secretary, Chamber of Commerce.	3 May " - -	- - - - -	108
	Commissioner of Arra- can.	Junior Secretary to the Government of Bengal.	17 May " - -	- - - - -	108
	Deputy Commissioner, 1st class.	Commissioner of Arra- can, Ahyab.	14 May " - -	- - - - -	109
	Extract, Bengal Revenue	Consultations - -	June " - -	Trial of New Orleans cotton seed in the Soonderbunds.	110
38	Officiating Commis- sioner of Nuddea.	Secretary to Govern- ment of Bengal.	1 June " - -	- - - - -	110
	Junior Secretary, Go- vernment Bengal.	P. Saunders, Esq. -	13 June " - -	- - - - -	110
	Extract, Bengal Revenue	Consultations - -	Aug. " - -	Growth of cotton in Chittagong -	110
39	J. B. Hollingsworth, Esq.	Junior Secretary to Go- vernment, Bengal.	25 July " - -	- - - - -	110
	Junior Secretary to Go- vernment, Bengal.	J. B. Hollingsworth, Esq.	5 Aug. " - -	- - - - -	111
40	Extract, India Revenue	Consultations - -	Aug. " - -	Failure of New Orleans cotton seed	111
	Secretary to Govern- ment, North Western Provinces.	Secretary to Govern- ment, India.	10 Aug. " - -	- - - - -	111
	Collector of Banda -	Secretary to Govern- ment, North Western Provinces.	25 July " - -	- - - - -	111
	Secretary to Govern- ment, India.	Ditto - - -	31 Aug. " - -	- - - - -	112
	Ditto - - -	Secretary to Bengal Chamber of Commerce.	31 Aug. " - -	- - - - -	112
41	Extract, North Western Provinces, Revenue Pro- ceedings.	- - - - -	Sept. " - -	- - - - -	112
	Secretary, Government India.	Secretary to Govern- ment, North Western Provinces.	31 Aug. " - -	- - - - -	112
42	Extract, India Revenue	Consultations - -	Sept. " - -	Experimental cotton cultivation in the Andamans.	113
	Memorandum - -	- - - - -	- - - - -	- - - - -	113
	Secretary to Govern- ment, India.	Secretaries, Manchester Cotton Supply Asso- ciation.	13 Sept. " - -	- - - - -	113
	Agents, Cotton Supply Association.	Secretary to Govern- ment, India.	17 Sept. " - -	- - - - -	113
	Officiating Under Secre- tary, Government of India.	Superintendent of Port Blair.	21 Sept. " - -	- - - - -	113
	Superintendent of Port Blair.	Secretary to Govern- ment, India.	31 July " - -	- - - - -	113
43	Extract, Bengal Revenue	Consultations - -	Dec. " - -	Proposed establishment of cotton farms at Chittagong.	114
	Officiating Secretary, Board of Revenue.	Secretary to Govern- ment, Bengal.	1 Nov. " - -	- - - - -	114
	Officiating Commis- sioner, Chittagong.	Secretary to Board of Revenue.	3 Sept. " - -	- - - - -	115

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
	Commissioner of Chittagong.	Secretary to Sudder Board of Revenue, Lower Provinces.	26 July 1861 -	- - - - -	118
	Secretary to Government, Bengal.	Secretary to Government of India.	10 Dec. „ -	- - - - -	119
	Under Secretary to Government, Bengal.	Ditto - - -	20 Dec. „ -	- - - - -	121
44	Extract, Bengal Revenue	Consultations - -	Dec. „ -	Growth of New Orleans cotton in Behar.	121
	Secretary to Board of Revenue.	- - - - -	18 Dec. „ -	- - - - -	121
	Commissioner of Patna	Secretary to the Board of Revenue.	23 Nov. „ -	- - - - -	121
	Officiating Collector of Patna.	Commissioner of Revenue.	19 Nov. „ -	- - - - -	122
45	Secretary of State -	Government of India -	8 May 1862, No. 8	Prospects of the cotton crop in the Southern States of America.	123
	R. Bunch, Esq., Charleston	Foreign Office -	19 Mar. „ -	- - - - -	123
46	Government of India -	Secretary of State -	9 Dec. 1861, No. 19	Correspondence with agents of the Manchester Supply Association relative to promoting the supply of cotton from India to England.	124
	Agents, Manchester Cotton Supply Association.	Secretary to Government	27 July „ -	- - - - -	124
	Secretary, Cotton Supply Association.	Agents, Cotton Supply Association.	3 Sept. „ -	- - - - -	125
	Secretary to Government	Ditto - - -	9 Dec. „ -	- - - - -	127
47	Government of India -	Secretary of State -	7 Jan. 1862, No. 1	Impressment of carts for the wants of Government.	131
48	Ditto - - -	Ditto - - -	30 Jan. „ No. 3	Proposed establishment of a Government cotton farm and factory in the Chittagong Hills.	132
	Secretary to Government, Bengal.	Secretary to Government, India.	10 Dec. 1861 -	- - - - -	132
	Secretary to Board of Revenue.	Secretary to Government, Bengal.	1 Nov. „ -	- - - - -	133
	Commissioner in Chittagong.	Secretary to Board of Revenue.	3 Sept. „ -	- - - - -	134
	Ditto - - -	Ditto - - -	26 July 1848 -	- - - - -	136
	Mr. Saunders, Special Commissioner.	Secretary to Government, Bengal.	12 July 1861 -	- - - - -	138
	Secretary to Government, India.	Ditto - - -	24 Jan. 1862 -	- - - - -	139
49	Government of India -	Secretary of State -	5 Feb. „ No. 4	Cotton hand-book for Bengal -	140
50	Secretary to Government	Mr. Medicott - -	23 Aug. 1861 -	Informing him that he has been selected to compile the hand-book on cotton for Bengal, and desiring him to visit Calcutta in order to effect the completion of the work.	140
51	Ditto - - -	Secretary to Government, Bengal.	23 Aug. „ -	Desiring that all assistance be afforded Mr. Medicott.	141
52	Secretary to Government	Secretary to Government, North Western Provinces.	23 Aug. „ -	- Ditto - - ditto - - -	141
53	Government of India -	Secretary of State -	27 Feb. 1862, No. 5	Growth of cotton in the districts of the Doab.	142
	Secretary to Government, North Western Provinces.	Government of India -	27 Jan. „ -	- - - - -	142
	Ditto - - -	Superintendent of Irrigation.	30 Nov. 1861 -	- - - - -	147
54	Government of India -	Secretary of State -	20 Mar. 1862, No. 7	Impressment of carts for the purposes of Government.	148
	Secretary to Government	Secretary to Government, North Western Provinces.	21 Dec. 1861 -	- - - - -	149
	Ditto - - -	Mr. Saunders - -	23 Dec. „ -	- - - - -	149
	Ditto - - -	Secretary to Government, Bengal.	2 Jan. 1862 -	- - - - -	149
	Secretary to Government, Bengal.	Secretary to Government, India.	7 Jan. „ -	- - - - -	150
	Mr. Saunders - -	Ditto - - -	6 Jan. „ -	- - - - -	150

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
	Secretary to Government, India.	Secretary to Government, North Western Provinces.	14 Jan. 1862 - -	- - - - -	151
	Secretary to North Western Provinces.	Secretary to Government, India.	8 Jan. „ - -	- - - - -	151
	Ditto - - -	- - -	27 Jan. „ - -	- - - - -	152
	Ditto - - -	Secretary to Government, India.	1 Mar. „ - -	- - - - -	152
	Secretary to Government, India.	Secretary to Government, North Western Provinces.	20 Mar. „ - -	- - - - -	153
	Ditto - - -	Secretary to Government, Bengal.	20 Mar. „ - -	- - - - -	154
55	Secretary of State -	Government of India -	23 May „ No. 10	Remarks on the proposed establishment of a Government cotton farm at Chittagong, on Mr. Saunders' report on the cotton districts of the Doab, and on the impressment of carts.	156
56	Government of India -	Secretary of State -	23 Dec. 1861 No. 89	Grants to local governments in aid of Public Works for facilitating the export of cotton.	156
	Extract Financial Department, No. 12,314, dated 8 October 1861	- - -	- - -	- - - - -	158
	Circular, No. 90 of 1861, dated 9 October 1861	- - -	- - -	- - - - -	158
	From Madras, No. 2146, dated 19 November 1861, and Enclosure	- - -	- - -	- - - - -	159
	Letter from Bombay, No. 5980, dated 4 November 1861, and Enclosure	- - -	- - -	- - - - -	161
	To ditto, No. 4266, dated 2 December 1861	- - -	- - -	- - - - -	164
	From Bengal, No. 95, dated 11 November 1861	- - -	- - -	- - - - -	165
	To ditto, No. 4272, dated 2 December 1861	- - -	- - -	- - - - -	165
	From North Western Provinces, No. 3569 A., dated 23 November 1861	- - -	- - -	- - - - -	166
	To ditto, No. 4268, dated 2 December 1861	- - -	- - -	- - - - -	168
	From Punjab, No. 2518, dated 11 November 1861	- - -	- - -	- - - - -	169
	To ditto, No. 4274, dated 2 December 1861	- - -	- - -	- - - - -	170
	From Commissioner, Nagpoor, No. 154, dated 29 October 1861	- - -	- - -	- - - - -	170
	To ditto, No. 4270, dated 2 December 1861	- - -	- - -	- - - - -	171
	From Chief Engineer, Pegu, No. 1020, dated 29 October 1861, and Enclosure	- - -	- - -	- - - - -	172
	From ditto, No. 1201, dated 29 November 1861	- - -	- - -	- - - - -	175
	Telegram to Commissioner, Pegu, No. 240, dated 9 December 1861	- - -	- - -	- - - - -	175
	Letter to Commissioner, Pegu, No. 4483, dated 23 December 1861	- - -	- - -	- - - - -	175
	From Resident, Hyderabad, No. 160, dated 27 September 1861, and Enclosures.	- - -	- - -	- - - - -	176
	From ditto, No. 189, dated 31 October 1861, and Enclosure	- - -	- - -	- - - - -	179
	To ditto, No. 4178, dated 23 November 1861	- - -	- - -	- - - - -	180
	To Bombay, No. 4177, dated 23 November 1861	- - -	- - -	- - - - -	181
	Telegram to Hyderabad, No. 225, dated 2 December 1861	- - -	- - -	- - - - -	181
	Ditto from ditto, dated 3 December 1861	- - -	- - -	- - - - -	181
	Letter to ditto, No. 4446, dated 20 December 1861	- - -	- - -	- - - - -	181
	From Superintendent Alguada Reef Lighthouse, No. 161, dated 17 October 1861.	- - -	- - -	- - - - -	182
	To ditto, No. 4277, dated 2 December 1861	- - -	- - -	- - - - -	182
	Resolution to Financial Department, No. 4485, dated 23 December 1861	- - -	- - -	- - - - -	182
57	Government of India -	Secretary of State -	23 Dec. 1861, No. 90	Measures for improving the communications in Cuttack for facilitating the export of cotton.	184
	Secretary to Government, Bengal.	Secretary to Government, India.	16 Nov. „ - -	- - - - -	184
	Memorandum by Assistant Chief Engineer, Bengal	Chief Engineer, Bengal	29 Oct. „ - -	- - - - -	185
	Superintending Engineer, Cuttack.	Chief Engineer, Bengal	23 Sept. „ - -	- - - - -	185
58	Secretary of State -	Government of India (Public Works Department.)	7 Mar. 1862, No. 11	Reply to the two preceding letters from the Government of India.	186
59	Government of India (Public Works Department).	Secretary of State -	19 Feb. „ No. 10	Measures adopted in the Punjab for facilitating the means of export, with particular reference to cotton.	187
	Memorandum, with maps, and statement which accompany.	- - -	28 Nov. 1861 „ -	Roads in the Punjab - - -	187
60	Secretary of State -	Government of India -	31 May 1862, No. 20	Acknowledging the above - - -	191
61	Ditto - - -	Government of India -	9 June „ No. 12	Information requisite for the improvement of Indian cotton.	192
	Circular by the Manchester Cotton Supply Association.	- - -	- - -	- - - - -	192
62	Government of India -	Secretary of State -	2 June 1862, No. 11	Report relative to the cotton districts of the Oude.	193
	Secretary to Commissioner, Oude.	Secretary to Government of India.	10 Apr. „ - -	- - - - -	193

No.	FROM	To	DATE.	SUBJECT.	PAGE.
	Report by Mr. Saunders Secretary to Govern- ment, India.	- - - - - Secretary to Govern- ment, Bengal.	1 Apr. 1862 - - 5 May " " - -	- - - - - - - - - -	193 213
	Secretary to Govern- ment, Bengal.	Secretary to Govern- ment, India.	17 May " - -	- - - - -	213
63	Secretary of State -	Government of India -	15 Oct. " No. 19	Reply in reference to the above sub- ject.	214
64	Government of India -	Secretary of State -	29 Sept. " No. 65	Transfer to, and maintenance by Go- vernment of roads in the North Western Provinces.	214
	Secretary to Govern- ment, North Western Provinces.	Secretary to Government of India.	1 May " - -	- - - - -	215
	Ditto - - - - -	Ditto - - - - -	7 June " - -	- - - - -	217
	Commissioner, Allaha- bad.	Secretary to Govern- ment, North Western Provinces.	10 May " - -	- - - - -	217
	Secretary to Govern- ment, India.	Ditto - - - - -	30 June " - -	- - - - -	219
	Secretary to Govern- ment, North Western Provinces.	Commissioner, Agra -	7 Aug. " - -	- - - - -	219
	Secretary to Govern- ment, India.	Secretary to Govern- ment, North Western Provinces.	26 Sept. " - -	- - - - -	220
	Map, to face page 219.				
65	Secretary of State -	Government of India -	8 Jan. 1863, No. 1	Reply in reference to the foregoing subject.	220
66	Commissioner of Cut- tack.	Secretary to Govern- ment, Bengal.	30 Dec. 1861 - -	Application, by Mr. Bond, for land for conducting an experiment in growing Sea Island cotton.	221
67	Secretary to Govern- ment, Bengal.	Commissioner of Cut- tack.	12 Feb. 1862 - -	Acceding to the above - - -	221
68	Commissioner of Dacca	Secretary to Govern- ment, Bengal.	1 Mar. " - -	Failure in Dacca, Sylhet and Cachar of the attempt to cultivate New Orleans cotton seed.	221
69	Secretary to Government of India.	Ditto - - - - -	5 May " - -	Proposed deputation of Mr. Saun- ders to the Lower Provinces of Bengal.	221
70	Secretary to Government of Bengal.	Secretary to Government, India.	17 May " - -	Reply to the above - - -	222
71	Secretary, Sudder Board of Revenue.	Secretary to Govern- ment, North Western Provinces.	24 June " - -	Information regarding the cultiva- tion of cotton in the North West Provinces.	222
	Collector of Allyghur -	Secretary, Sudder Board of Revenue.	31 Jan. " - -	- - - - -	231
	Collector of Bunda -	Ditto - - - - -	27 Nov. 1861 - -	- - - - -	233
	Commissioner of Jaloun	Ditto - - - - -	21 Nov. " - -	- - - - -	235
72	Agent to Governor Ge- neral for Central India.	Secretary to Govern- ment, India.	18 Aug. " - -	Abolition of duties within the terri- tories of the Rajahs of Seetamow and Sillane.	240
73	Secretary to Govern- ment, India.	Bengal Chamber of Commerce.	5 Sept. 1862 - -	Rules for the competition for Go- vernment cotton prizes.	241
	Ditto - - - - -	Agricultural Society -	5 Sept. " - -	- - ditto - - - - -	241
74	Agricultural and Horti- cultural Society.	Ditto - - - - -	11 Oct. " - -	Rules for the competition for Go- vernment cotton prizes.	241
	Chamber of Commerce Notification - - - -	Ditto - - - - -	24 Oct. " - -	- - ditto - - - - -	242
		- - - - -	11 Nov. " - -	- - ditto - - - - -	242
75	Secretary to Sudda Board of Revenue.	Secretary to Govern- ment, North Western Provinces.	18 Oct. " - -	Return of the area and yield of cotton cultivation in the North Western Provinces.	243
	Ditto - - - - -	Ditto - - - - -	19 Dec. " - -	Return of yield only - - -	249
76	Assistant Salt Agent, Chittagong.	Commissioner - - -	- Oct. " - -	Result of private experiments in Chittagong.	251
77	Mr. Stewart - - -	Landholders' and Com- mercial Association.	10 Nov. " - -	Cultivation of cotton in Cachar -	251
78	Secretary of State -	Government of India -	31 Jan. 1863, No. 3	Circular Despatch calling for monthly statements of the quan- tity and value, &c. of all cotton exported from India.	252

II.—MADRAS.

No.	FROM	To	DATE.	SUBJECT.	PAGE.
1	Government - - -	Sir C. Wood - - -	22 Jan. 1861	Forwarding papers on the result of an experiment made by Mr. Shubrick, late Collector of Chingleput, in growing Egyptian cotton.	253
	(7 Enclosures):				
	1. Mr. Shubrick - - -	Board of Revenue - - -	3 Mar. 1860	- - - - -	253
	2. Proceedings of Board of Revenue - - -	- - - - -	9 Mar. "	- - - - -	254
	3. Order of the Madras Government - - -	- - - - -	3 April "	- - - - -	254
	4. Letter from Chairman of Chamber of Commerce - -	- - - - -	2 April "	- - - - -	255
	5. Proceedings of Board of Revenue - - -	- - - - -	13 April "	Opinion of the Chamber of Commerce on Mr. Shubrick's cotton.	255
	6. Board of Revenue -	Government - - -	23 April "	Calling attention to reports of district exhibitions.	255
	7. Collector of Madras -	Board of Revenue - -	11 July "	Cultivation of Egyptian cotton in Chingleput.	256
2	Sir C. Wood - - -	Government - - -	16 May 1861	Reply to above - - -	257
3	Collector of Madras -	Board of Revenue - -	6 April "	Report on experiments made by Captain Templer in growing Egyptian cotton at Chingleput.	257
	Captain Templer - -	Collector of Madras -	1 April "	Ditto - ditto - - -	257
4	Collector of Vizagapatam	Board of Revenue - -	22 July "	Supply of Indian cotton to England. Suggestions.	258
5	Order of Government thereon - - - - -	- - - - -	26 Aug. "	Concurring in the opinion of the Board of Revenue that it would not be advisable to adopt the suggestion of the Collector of Vizagapatam, as to giving land rent-free for cotton cultivation.	260
6	Collector of Coimbatore -	Secretary to Government	20 Aug. "	General remarks on the cultivation of cotton.	260
7	Ditto - - - - -	Board of Revenue - -	14 Sept. "	Growth of foreign cotton by ryots -	261
	Order of the Government	- - - - -	15 Oct. "	- - - - -	261
8	Secretary to Board of Revenue.	Mr. Haywood - - -	27 Nov. "	Distribution of foreign cotton seeds -	262
9	Collector of Kurnool -	Board of Revenue - -	28 Nov. "	Cultivation of cotton in Kurnool. State of the roads.	262
	Order of the Government	- - - - -	15 Feb. 1862	Collector of Kurnool's letter communicated to the Public Works Department.	263
10	Collector of Kistna district.	Board of Revenue - -	17 Feb. "	Cotton cultivation in the Kistna district. State of the roads.	263
	Order of the Government	- - - - -	4 Mar. "	Collector of the Kistna district. Report communicated to the Public Works Department.	266
11	Sir C. Wood - - -	Government - - -	2 May "	Forwarding a memorandum by Mr. Clements R. Markham on the introduction of the cotton plant of Peru into India.	266
	(3 Enclosures):				
	1. Memorandum by Mr. Markham - - - - -	- - - - -	24 April "	On the indigenous cotton plant of Peru, and on its proposed introduction into India.	266
	2. Order of Government -	- - - - -	12 June "	Peruvian cotton seeds, and copies of Mr. Markham's memorandum to be distributed.	270
	3. Chairman of Chamber of Commerce.	Secretary to Board of Revenue.	22 July "	Very desirable that a careful trial should be made of the Peruvian cotton seeds to be transmitted by Mr. Markham.	270

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
12	Government - - - (18 Enclosures):	Sir C. Wood - - -	4 Mar. 1862	Prizes for the production of cotton -	271
	1. Secretary to Government of India.	Secretary to Government of Madras.	10 Aug. 1861	Forwarding copy of a resolution for encouraging the production and improvement of cotton. Inquiring whether the Madras Chamber of Commerce will undertake the duty of awarding prizes.	272
	2. Resolution by Governor General - - -		9 Aug. "	Ditto - ditto - - -	272
	3. Minute by Governor of Madras - - -		29 Aug. "	Views on the growth and improvement of the quality of native cotton.	273
	4. Resolution by Government of Madras - - -		29 Oct. "	Ditto - ditto - - -	275
	5. Secretary to Agri-Horticultural Society.	Secretary to Government	2 Oct. "	Proposing experiments for improvement of Indian cotton.	275
	6. Resolution of Government - - -		29 Oct. "	- - - - -	276
	7. Secretary to Government.	Chairman of Chamber of Commerce.	29 Oct. "	Prizes for cotton - - -	276
	8. Secretary to Government of Madras.	Secretary to Government of India.	31 Oct. "	Reporting measures adopted regarding supply of Indian cotton to England.	277
	9. Chairman of Chamber of Commerce.	Secretary to Government	2 Nov. "	Accepting the duty of awarding prizes.	277
	10. Resolution of Government - - -		7 Nov. "	- - - - -	278
	11. Under Secretary to Government of India.	Secretary to Government of Madras.	25 Nov. "	Approving remission of assessment on land devoted to the improvement of native cotton.	278
	12. Chairman of Chamber of Commerce.	Secretary to Government	28 Jan. 1862	Suggesting rules with reference to cotton prizes.	278
	12. Circular, Board of Revenue.	Ditto - - -	10 Feb. "	Rules in awarding Governor General's prizes for cotton.	279
	13. Secretary to Government of India.	Secretary to Government of Madras, Public Works Department.	10 Oct. 1861	Extra public works grant contemplated, for increasing facilities for trade, more especially in cotton.	280
	14. Ditto - - -	Ditto - - -	9 Oct. "	Requiring a statement of objects on which the Madras Government propose to expend the additional sum offered to their assignments.	280
	15. Resolution of Government - - -		29 Oct. "	- - - - -	281
	16. Chief Engineer	Secretary to Government, Public Works Department.	11 Nov. "	Submits memorandums of allotment of works to be carried out from the additional sum offered.	281
	17. Telegram from Secretary to Government of India.	Secretary to Government of Madras.	18 Dec. "	- - - - -	286
	18. Resolution of Government - - -		19 Nov. "	- - - - -	286
13	Government - - - (5 Enclosures):	Sir C. Wood - - -	10 Mar. 1862	Trial of Egyptian cotton seeds in Cud-dapah, Bellary, Kurnool, Coimbatore, and Tinnevely.	286
	1. Board of Revenue	Secretary to Government	14 June 1861	Cotton Supply Association have promised to send the secretary to the Agri-Horticultural Society a supply of Egyptian and New Orleans cotton seeds.	286
	2. Resolution of Government - - -		27 June "	Ditto - ditto - - -	287
	3. Board of Revenue	Secretary to Government	15 Oct. "	Reports from Collectors of results of trials of Egyptian seed supplied by Mr. Shubrick.	287
	4. Resolution of Government - - -		4 Nov. "	- - - - -	291
	5. Proceedings of Board of Revenue - - -		4 Dec. "	Price of Ganjam cotton - - -	291
14	Sir C. Wood - - -	Government - - -	9 July 1862	Objecting to remissions of revenue in favour of persons growing cotton, and ordering instructions to that effect to be withdrawn.	292

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
15	F. Minchin, Esq. - -	Secretary to Board of Revenue.	3 Dec. 1861	As to the grant of prizes to successful cultivators of cotton.	292
16	G. Haywood, Esq. -	Ditto - - - -	14 Jan. 1862	Reporting on a sample of cotton grown by Mr. Minchin.	295
17	Chairman of Chamber of Commerce.	Ditto - - - -	30 Jan. "	- - - - -	296
18	A. Wedderburn, Esq., Collector of Cuddapah.	Ditto - - - -	18 Jan. "	Necessity for a rotation of crops -	296
19	Ditto - - - -	Ditto - - - -	28 Mar. "	Arrangement for distribution of prizes	297
20	Ditto - - - -	Ditto - - - -	29 April "	Remissions for cotton experiments -	298
21	Ditto - - - -	Ditto - - - -	8 Aug. "	Applications for land rent-free, to be devoted to cotton improvements, submitted.	299
22	Resolution of Government	- - - -	16 May "	On the Collector of Cuddapah's scheme for prizes.	300
23	A. Wedderburn, Esq., Collector of Cuddapah.	Secretary to Board of Revenue.	29 May "	Explanations respecting cotton prizes	300
24	Messrs. Line & Co. -	Secretary to Government	24 Mar. "	Cotton samples for exhibition -	301
	(Enclosure):				
	1. T. O. Sutton, Esq. -	Messrs. Line - - - -	22 Jan. "	- - - - -	301
25	Captain Mitchell, in charge of Museum.	Private Secretary to the Governor.	21 April "	Cotton samples for exhibition. Report	302
	Resolution of Government	- - - -	17 June "	- - - - -	308
26	Mr. Williams - - -	Secretary to Government	9 April "	Offering his services in the cultivation of cotton.	308
	Collector of Madras - -	Mr. Williams - - -	25 Mar. "	- - - - -	309
27	Dr. Shortt - - - -	Collector of Madras - - -	14 May "	Offering a supply of seeds for distribution.	310
	Resolution of Government	- - - -	30 May "	- - - - -	310
28	A. Wedderburn, Esq., Collector of Cuddapah.	Secretary to Board of Revenue.	31 May "	Forwarding a letter to the Cotton Supply Association.	311
29	Secretary to Board of Revenue.	Secretary to Government	4 June "	Forwarding replies of the Collector of Cuddapah to queries of the Cotton Supply Association.	311
	Resolution of Government	- - - -	17 June "	Roads in the Kistna district -	311
30	Government of Madras -	Sir C. Wood - - - -	7 June "	- - - - -	312
	(4 Enclosures):				
	1. Order of Madras Government - - - -	- - - -	12 April "	- - - - -	312
	2. Proceedings of Madras Government - - - -	- - - -	4 Mar. "	- - - - -	314
	3. Mr. Thornhill, Collector of Kistna district.	Secretary to Board of Revenue.	17 Feb. "	- - - - -	314
	4. Secretary to Government of India.	Secretary to Government of Madras.	28 Feb. "	Measures for meeting the increased demand for cotton.	316
31	A. Wedderburn, Esq., Collector of Cuddapah.	Secretary to Board of Revenue.	24 June "	Specimens of native cloth; assessment of land.	318
	(4 Enclosures):				
	1. Resolution of Board of Revenue - - - -	- - - -	- - - -	- - - - -	319
	2. Resolution of Government - - - -	- - - -	17 June 1862	- - - - -	320
	3. A. Wedderburn, Esq. -	Secretary to Cotton Supply Association.	31 May "	Replies to queries -	320
	4. Resolution of Government - - - -	- - - -	10 Sept. "	Mr. Wedderburn's letter to be forwarded.	322
32	Sir C. Wood (Extract) -	Government of Madras (Public Works Department.)	16 Sept. "	Construction of roads in the Kistna district.	322
33	Government - - - -	Sir C. Wood - - - -	25 Sept. "	Collectors informed that they are not at liberty to grant any more land rent free for cotton cultivation.	323

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
34	Mr. Grant, Collector of Coimbatore.	Secretary to Board of Revenue.	8 Aug. 1862	Arrangements for experiments in cotton cultivation.	323
	(2 Enclosures):				
	1. - - - - -	- - - - -	- - -	Names of ryots selected for experimental cotton cultivation, and extent of their holdings in Coimbatore.	324
	2. Resolution of Board of Revenue - - - - -	- - - - -	- - -	- - - - -	324
35	Mr. Grant, Collector of Coimbatore.	Secretary to Board of Revenue.	26 Sept. 1862	Arrangements for cotton experiments with ryots.	324
	Resolution of Board of Revenue - - - - -	- - - - -	- - -	- - - - -	324
36	Mr. Levinge, Collector of Madura.	Secretary to Board of Revenue.	28 July 1862	Translation of the Governor's Minute into the vernacular. Ryots have not responded to the call to undertake experimental cultivation in any numbers in Madura.	325
	Resolution of Board of Revenue - - - - -	- - - - -	- - -	- - - - -	325
37	Mr. Silver, Collector of Tinevelly.	Secretary to Board of Revenue.	18 Aug. 1862	Experimental cotton cultivation by ryots in Tinevelly.	325
38	Sir C. Wood - - -	Government - - - - -	14 Aug. "	Transmission of cotton seeds, obtained by Mr. Markham, from Peru.	326
	Memorandum by Dr. Wight - - - - -	- - - - -	- - -	On the introduction of Peruvian cotton plants into the Madras Presidency.	326
39	Resolution of Government	- - - - -	4 Oct. 1862	Collectors to report on state and prospects of cotton cultivation.	327
40	Mr. Foord, Collector of Kistna districts.	Secretary to Government of Madras.	13 Oct. "	Extent of cotton cultivation in the Kistna districts.	327
41	Mr. Banbury, Collector of Kurnool.	Ditto - - - - -	14 Oct. "	Cotton cultivation in Kurnool	327
42	Mr. Grant, Collector of Coimbatore.	Ditto - - - - -	15 Oct. "	Cotton cultivation in Coimbatore	328
43	Collector of Bellary -	Ditto - - - - -	16 Oct. "	Cotton cultivation in Bellary	328
44	Collector of Cuddapah -	Ditto - - - - -	24 Oct. "	Cotton cultivation in Cuddapah	329
45	Collector of Nellore -	Ditto - - - - -	31 Oct. "	Cotton cultivation in Nellore	329
46	Collector of Madura -	Ditto - - - - -	14 Nov. "	Cotton cultivation in Madura	330
47	Collector of Salem -	Ditto - - - - -	24 Nov. "	Cotton cultivation in Salem	330
48	Sir C. Wood - - -	Government - - - - -	25 Nov. "	Transmission of second instalment of Peruvian cotton seeds.	331
	(3 Enclosures):				
	1. Note by Mr. Spruce -	- - - - -	25 Sept. "	Cotton cultivation in Peru	332
	2. Note by H. M. Vice-Consul at Payta -	- - - - -	30 Sept. "	- - - - -	333
	3. Report by Mr. Kendall -	- - - - -	26 Aug. "	- - - - -	333
49	Circular of Board of Revenue - - - - -	- - - - -	- - -	Extent of land under cotton cultivation to be reported.	335
50	Mr. Banbury, Collector of Kurnool.	Secretary to Board of Revenue.	25 Sept. 1862	- - - - -	335
51	Government - - -	Sir C. Wood - - -	7 Nov. "	Award by the Chamber of Commerce, of prizes for cotton cultivation.	336
	(7 Enclosures):				
	1. Chairman of Chamber of Commerce.	Secretary to Government	31 July "	Few samples of cotton received	336
	2. Resolution of Government - - - - -	- - - - -	15 Aug. "	Letter from Chamber of Commerce sent to the Government of India.	336
	3. Secretary to Chamber of Commerce.	Secretary to Government	27 Aug. "	Forwarding proceedings in the award of cotton prizes for 1861-62.	337
	4. Resolution of Government - - - - -	- - - - -	12 Sept. "	- - - - -	343
	5. Chief Secretary to Government.	Secretary to Government of India.	12 Sept. "	- - - - -	344
	6. Secretary to Government of India.	Secretary to Government	5 Sept. "	Modification in the rules for cotton prizes.	344
	7. Notice - - -	- - - - -	7 Oct. "	Rules for cotton prizes	345

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
52	Messrs. Binny - -	Secretary to Board of Revenue.	18 Oct. 1862	Applying for the amount of the cotton prize gained by Messrs. Fischer.	347
	Order of Government - -	- - - -	28 Oct. "	- - - -	348
53	Government - - -	Sir C. Wood - - -	2 Dec. "	Forwarding letters from Mr. Brown of Malabar, on the cotton history of India.	348
	(10 Enclosures):				
	1. Proceedings of Board of Revenue - - -	- - - -	9 April "	Observations on information respecting the growth of cotton in Malabar.	348
	2. Order of Government - - -	- - - -	3 July "	- - - -	353
	3. Mr. Brown - - -	Secretary to Government	10 Aug. "	Cotton history of India - - -	353
	4. Order of Government - - -	- - - -	29 Oct. "	- - - -	360
	5. Mr. Brown - - -	Secretary to Government	21 Oct. "	Substantiating his averments on Indian cotton and American slavery.	361
	6. Order of Government - - -	- - - -	19 Nov. "	- - - -	361
	7. Proceedings of Board of Revenue - - -	- - - -	9 July "	Submitting a letter from the Collector of Cuddapah, contradicting Mr. Brown's statements.	361
	8. Order of Government - - -	- - - -	24 July "	- - - -	362
	9. Proceedings of Board of Revenue - - -	- - - -	10 Sept. "	Submitting a letter from the Collector of Malabar, forwarding Mr. Brown's apology for statements regarding growth of cotton in Cuddapah.	362
	10. Order of Government - - -	- - - -	19 Sept. "	- - - -	363
54	Government - - -	Sir C. Wood - - -	10 Jan. 1863	Reporting that the Peruvian cotton seed has in general sprung up successfully in Cuddapah.	363
	Proceedings of Board of Revenue - - -	- - - -	17 Dec. 1862	- - - -	363
	Order of Government - - -	- - - -	10 Jan. 1863	- - - -	363
55	Sir C. Wood - - -	Government of Madras -	16 Mar. "	Peruvian cotton. Further information respecting its cultivation.	364
	(2 Enclosures):				
	1. From Mr. Mardon - - -	- - - -	20 Jan. "	- - - -	364
	2. Memorandum by Mr. Markham - - -	- - - -	- - - -	On the species to which the cotton seeds from Peru belong.	364
56	Sir C. Wood - - -	Government - - -	9 Feb. 1863	Transmission of a further instalment of Peruvian cotton seeds, procured from the valley of Casma.	364
57	Collector of Tinnevely -	Secretary to Government	27 Nov. 1862	Prospects of cotton cultivation -	365
58	Ditto - - -	Ditto - - -	17 Dec. "	Injury to the cotton crops, caused by rain.	365
59	Collector of Madura -	Ditto - - -	16 Dec. "	Prospects of cotton cultivation -	366
60	Collector of Kistna District.	Secretary to Board of Revenue.	19 Nov. "	Quantity of cotton grown in the Kistna district.	367

III.—BOMBAY.

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
1	Bombay Chamber of Commerce	Secretary to Government.	10 April 1860	Opinion in regard to the adoption of penal measures to secure the cultivation of unmixed cotton, together with remarks and suggestions upon the subject of the growth of cotton generally.	369
	Orders of Government -	- - - -	18 April "	Submitting the above to the Revenue Commissioners, South and North Divisions for information and remarks.	371

No.	FROM	TO	DATE.	SUBJECT.	No.
2	Acting Secretary to Government.	Bombay Chamber of Commerce.	11 Jan. 1861	Replies of the Revenue Commissioners to the references made to them on the receipt of the letter from the Chamber, 10th April 1860, as above.	371
	(4 Enclosures):				
	1. Revenue Commissioner, Southern Division.	Secretary to Government	27 June 1860	- - - - -	371
	2. Revenue Commissioner, Northern Division.	Ditto - - - -	8 May "	- - - - -	372
	3. Ditto - - - -	Ditto - - - -	10 May "	- - - - -	376
	4. Ditto - - - -	Ditto - - - -	19 July "	- - - - -	376
3	- - - - -	- - - - -	1 Dec. "	Half-yearly report on the Dhurungaon factory, ending 30th November 1860.	377
4	- - - - -	- - - - -	18 Jan. 1861	Report on the Dharwar gin factory, ending 30th November 1860. (Statements accompanying.)	379
5	- - - - -	- - - - -	13 Mar. "	Return of the extent of land in the Kolhapoor district under cotton cultivation, with the amount of its produce.	387
6	- - - - -	- - - - -	16 April "	Return of cotton cultivation in the Northern Division for 1860-61, as contrasted with 1859-60.	388
7	Bombay Chamber of Commerce.	Secretary to Government	6 April "	Notifying the nomination of Mr. Sillar, as the gentlemen selected by the Chamber to accompany the commission appointed to inspect and report on the roads, &c. in the cotton districts.	391
8	Mr. Sillar, representative of the Bombay Chamber of Commerce.	Colonel Scott, Chief Engineer.	8 April "	Submitting propositions having reference to his contemplated tour in the cotton districts.	391
9	Under Secretary Government.	Superintendent Revenue Survey, Southern Mahratta Country	25 April "	Desiring that measures be taken to have the lines of traffic between the cotton producing districts and the ports of shipment, examined and reported on, and requesting his assistance in furthering Mr. Sillar's object.	392
10	Circular - - - -	- - - - -	25 April "	Desiring all Collectors to afford every assistance to Mr. Sillar.	393
11	Under Secretary to Government.	Resident at Hyderabad -	25 April "	Requesting that such aid and assistance as Mr. Sillar may need, be furnished him.	393
	Ditto - - - -	Commissioner, Berar -	25 April "	Ditto - ditto - - - -	393
12	Ditto - - - -	Mr. Sillar - - - -	2 May "	Forwarding papers containing the information he may require on his arrival in the Berar districts and on the cultivation of cotton in the Hyderabad districts.	393
	(4 Enclosures):				
	1. Resident at Hyderabad	Under Secretary to Government.	29 April "	- - - - -	394
	2. Assistant ditto - - - -	Commissioner Hyderabad	29 April "	- - - - -	394
	3. Queries submitted by Bombay Chamber of Commerce, to Resident at Hyderabad.	- - - - -	Dec. 1859	- - - - -	394
	4. Resident at Hyderabad	Bombay Chamber of Commerce.	6 Mar. 1861	- - - - -	396
	List of samples of cloths, cotton, &c. - - - -	- - - - -	- - - -	- - - - -	399
13	Secretary of State - - - -	Government of Bombay -	17 Dec. 1862	Reviewing the Report of Colonel Davidson, the Resident at Hyderabad, contained in the above letter.	401
14	- - - - -	- - - - -	- - - -	Report on the Dhurungaon Factory, ending 31st May 1861.	402

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
15	Officiating Revenue Commissioner, Southern Division.	Secretary to Government	15 June 1861	Suggestions relative to the measures capable of adoption by Government in furthering the interests of the cotton trade in the Bombay Presidency.	404
	Resolution of Government	- - - - -	28 June "	- - - - -	405
16	Secretary of State -	Government of Bombay -	31 Dec. 1862	Reply to the above - - - - -	405
17	Bombay Chamber of Commerce.	Secretary to Government	9 July 1861	Forwarding Report by Mr. Sillar on his tour through the Cotton Districts.	406
	Mr. Sillar	Chamber of Commerce -	4 June "	- - - - -	406
	Secretary to Government	Revenue Commissioner, Southern Division.	16 July "	Submitting copy of the same -	408
18	Ditto -	Chamber of Commerce.	29 July "	Replying to their letter of the 9th July 1861, as above, and explaining the cause of the failure of Mr. Sillar's mission; suggesting at the same time that, should the Chamber be disposed to depute another gentleman to undertake a tour, the Government will be prepared to nominate an officer to accompany him.	408
19	Secretary of State - -	Government of Bombay -	9 Feb. 1863	Replying to the above correspondence, with reference only to the failure of Mr. Sillar's mission.	408
20	Secretary to Government -	Secretary to Government of India.	27 Aug. 1861	Acknowledging the receipt of the Resolution of the Government of India on the subject of the preparation of an analysis of information relative to the production and supply of cotton, and stating that Mr. Cassels has consented to undertake the task.	409
	Resolution of Government	- - - - -	27 Aug. "	Communicating the above to the various authorities, with a request that they will place all the information at their command at the disposal of Mr. Cassels.	409
21	Secretary to Government -	Chamber of Commerce -	31 Aug. "	Award of prizes - - - - -	409
22	Chamber of Commerce -	Secretary to Government -	24 Aug. "	Suggestions on the above subject -	409
23	Secretary to Government -	Chamber of Commerce -	2 Sept. "	Reply to the above - - - - -	410
24	Chamber of Commerce -	Secretary to Government -	26 Aug. "	Calling attention to the improvement that has taken place in the value of Dharwar saw-ginned American cotton, with a comparative statement of the prices of New Orleans, Dharwar, Broach, and Comptah cotton.	411
	Secretary to Government -	Chamber of Commerce -	2 Sept. "	Acknowledging the above - - -	411
25	Revenue Commissioner, Southern Division.	Secretary to Government -	7 Aug. "	Explanation of the Collector of Sholapore in regard to certain representations made by Mr. Sillar.	412
26	Chamber of Commerce -	Secretary to Government -	13 Aug. "	Stating that the want of assistance complained of by Mr. Sillar was only experienced in the Nizam's territory, and referring to the offer of Government to depute an officer to accompany their representative on another tour.	412
27	Secretary to Government -	Chamber of Commerce -	5 Sept. "	Reply to the above - - - - -	413
28	Ditto - - ditto -	Resident at Hyderabad -	5 Sept. "	Forwarding the above correspondence	413
29	Resident at Hyderabad -	Secretary to Government -	9 Sept. "	Acknowledging the receipt of the above letters, and suggesting the desirableness of an officer being appointed by the Hyderabad Government to accompany the other Commissioners through the Nizam's territory.	414
	Secretary to Government -	Resident at Hyderabad -	23 Sept. "	Reply to the above - - - - -	414

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
30	Secretary to Government	Chamber of Commerce -	23 Sept. 1861	Forwarding the above letter from the Resident at Hyderabad.	414
	Ditto - - - -	Revenue Commissioner, S.D.	23 Sept. "	Enclosing the above letter to the Chamber of Commerce, with its accompaniment.	415
31	Collector of Hyderabad -	Secretary to Government	9 Sept. "	Forwarding report to the Commissioner in Sind on the subject of increased cotton cultivation in the Hyderabad districts.	416
	Ditto - - - -	Commissioner in Sind -	13 Aug. "	Report above referred to - -	416
32	- - - - -	- - - - -	19 Aug. "	Report on the Dharwar Gin Factory, to the end of May 1861, with accompanying statements.	415
33	Chamber of Commerce -	Secretary to Government	6 Sept. "	Terms on which prizes should be offered. Await the decision of Government prior to drawing up rules as to whether the prizes should be given for growing or marketing cotton.	424
34	Secretary to Government	Chamber of Commerce -	24 Oct. "	Forwarding resolution of Government on the subject of the award of prizes.	424
	Resolution of Government	- - - - -	24 Oct. "	- - - - -	425
35	Secretary to Government	Revenue Commissioner, N.D.	17 Dec. "	Measures for stimulating and improving the cultivation of cotton.	426
	Chamber of Commerce -	Secretary to Government	25 Nov. "	Ditto - - ditto - -	426
36	Secretary to Government	Chamber of Commerce -	17 Dec. "	Reply to the above - - -	427
37	Government of Bombay -	Secretary of State - -	27 Dec. "	Screw-presses at Kurrachee and Mooltan.	427
	Commissioner in Sind -	Governor of Bombay -	29 Nov. "	- - - - -	428
38	Secretary of State -	Government of Bombay -	8 Feb. 1862	Reply to the above - - -	429
39	Government of Bombay -	Secretary of State -	13 Jan. "	Hand-book on Cotton, by Mr. Cassels	429
40	- - - - -	- - - - -	1 Dec. 1861	Report on the Dhurrangaum Factory, to the end of November 1861.	430
41	Chamber of Commerce -	Secretary to Government	20 Jan. 1862	Abolition of Government establishments at Broach and Surat for the examination and stamping of cotton bales.	431
42	Resolution of Government	- - - - -	30 Jan. "	Alteration in the arrangements in regard to the stamping, &c., of cotton bales.	432
43	Secretary to Government	Chamber of Commerce -	15 Feb. "	Reply to the above letter, and stating that it is considered neither requisite nor possible to adopt further legislative measures beyond those proposed in the foregoing resolution.	432
44	Police Commissioner, N.D.	Secretary to Government	12 Feb. "	Correspondence relative to the discontinuance of the practice of examining, &c., cotton bales.	433
	Extract from Diary of Superintendent of Police, Broach.	- - - - -	Mar. 1861	- - - - -	433
	Magistrate of Broach -	- - - - -	12 Nov. "	- - - - -	434
	Assistant Collector, Broach	Acting Collector - -	9 Feb. 1860	- - - - -	434
	Acting Collector -	Assistant Collector -	24 July "	- - - - -	435
	Commissioner of Police, N.D.	Joint Magistrate at Broach	19 Nov. 1861	- - - - -	435
45	Resolution of Government	- - - - -	24 Feb. 1862	Continuance of the supervision of packing of bales to depend on the dealers themselves.	435
46	Chamber of Commerce -	Secretary to Government	10 Mar. "	Ditto - ditto - - -	436
47	Secretary to Government	Chamber of Commerce -	7 April "	Ditto - ditto - - -	436
48	Commissioner of Police, N.D.	Secretary to Government	15 April "	Fraudulent packing of cotton	438
	Joint Magistrate at Broach	Police Commissioner, N.D.	5 April "	- - - - -	438
	Police Commissioner, N.D.	Joint Magistrate at Broach	14 April "	- - - - -	439
	Magistrate of Khandeish -	Assistant - - -	- - -	- - - - -	439
	Ditto - - - -	Police Commissioner, N.D.	26 Mar. "	- - - - -	440
	Commissioner of Police, N.D.	Magistrate of Khandeish -	14 April "	- - - - -	440
49	Secretary to Government	Chamber of Commerce -	5 May "	Forwarding the above papers	440

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
50	Resident at Hyderabad -	Secretary to Government	8 May 1862	Proposed measures to prevent the adulteration of cotton.	441
	Magistrate of Khandeish	Resident at Hyderabad -	2 April "	- - - - -	441
	Resident - - - -	Magistrate - - - -	17 April "	- - - - -	442
	Ditto - - - -	Commissioner - - - -	14 April "	- - - - -	442
	Commissioner - - - -	Resident - - - -	23 April "	- - - - -	443
	Magistrate, Khandeish -	Commissioner of West Berar	2 April "	- - - - -	443
51	Secretary to Government	Police Commissioner, s.d.	29 May "	Forwarding the above papers - -	443
52	Chamber of Commerce -	Secretary to Government	30 Sept. "	Robberies and adulteration of cotton	444
53	Secretary to Government	Chamber of Commerce -	21 Oct. "	Reply to the above, and stating that a commission has been appointed to investigate the whole question of adulteration.	445
54	Ditto - - - -	Commissioner of Customs, Dr. Forbes and C. Forjett, Esq.	21 Oct. "	Informing them that they are appointed to form the above commission.	445
55	- - - - -	- - - - -	11 Feb. "	Report on the Dharwar Gin Factory	446
56	Collector of Surat -	Secretary to Government	18 Feb. "	Report, with specimens of the varieties of soil in which cotton is grown.	452
57	- - - - -	- - - - -	24 April "	Statement of cotton cultivation in Sind for 1861-62.	454
58	Revenue Commissioner, n.d.	Secretary to Government	5 July "	Return of cotton cultivation in the Northern Division for 1861-62.	456
59	- - - - -	- - - - -	10 July "	Ditto, Southern Division - - -	459
60	Dr. Forbes - - - -	Collector of Dharwar -	11 July "	Requesting that sanction may be obtained for his procuring materials for 300 gins.	462
	Resolution of Government	- - - - -	- - -	Acceding to the above application -	462
61	Revenue Commissioner, n.d.	Secretary to Government	14 April "	Measures for facilitating the export of the next season's crop.	463
	Collector of Ahmedabad -	Commissioner, n.d. - - -	17 Aug. 1861	- - - - -	464
	Collector of Surat -	- - - - -	24 April "	- - - - -	465
	Ditto - - - -	- - - - -	19 Feb. 1862	- - - - -	466
	Extract from Colonel Turner's Memorandum -	- - - - -	18 Mar. "	- - - - -	466
62	Superintending Engineer	Secretary to Government	23 May "	Measures for facilitating the export of the next season's crop at Guzerat.	467
	Consulting Engineer, Guzerat.	Superintending Engineer	12 May "	- - - - -	467
	Ditto - - - -	Ditto - - - -	17 May "	- - - - -	468
	Resolution of Government	- - - - -	- - -	- - - - -	469
63	Government of Bombay -	Secretary of State - - -	27 Sept. "	Reporting that Dr. Forbes, Superintendent of the Cotton Gin Factory at Dharwar, has been permitted to obtain materials from England for cotton gins, and requesting that payment be made for the same.	469
64	Ditto - - - -	Ditto - - - -	27 Oct. "	Detailing the manner in which assistance was rendered to Mr. Haywood, agent of the Manchester Cotton Company.	470
	Secretary to Government	Dr. Forbes - - - -	26 July "	- - - - -	470
	Dr. Forbes - - - -	Secretary to Government	4 Aug. "	- - - - -	470
	Resolution of Government	- - - - -	- - -	- - - - -	472
65	Secretary to Government	Under Secretary of State	27 Nov. "	Report on the Dharwar Gin Factory to the end of May 1862.	472
66	- - - - -	- - - - -	15 Sept. "	Return of land under cotton cultivation in the Kolahpoor territory, with the amount of yield, &c.	490
67	- - - - -	- - - - -	1 June "	Report on the Dhurrungaum Factory to the end of May 1862, containing suggestions as to the propriety of selling by auction the use of the Government gins.	491
	Resolution of Government	- - - - -	10 Oct. "	Authorizing the above suggestion being carried into effect.	491
68	Secretary to Bengal Government.	Secretary to Government	15 Sept. "	Requesting that screw presses be forwarded to Lukkur.	494
	Resolution of Government	- - - - -	- - -	Complying with the above requisition	494

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
69	Secretary to Government	Dr. Forbes - - -	- - -	Desiring that he proceed to Guzerat to meet the representatives of the Chamber of Commerce, with view of inquiring into the subject of frauds.	494
	Chamber of Commerce -	Secretary to Government	29 Oct. 1862	- - - -	494
70	Ditto - - -	Revenue Commissioner, s.d.	7 Nov. "	Sites for the erection of cotton presses	495
	Memorandum by Commissioner, s.d.	- - -	13 Nov. "	Ditto - ditto - - -	495
	Resolution of Government	- - -	- - -	Ditto - ditto - - -	495
71	Ditto - - -	- - -	15 Nov. 1862	Measures for the preparation of the draft of a law for preventing the adulteration of cotton.	496
72	Secretary of State - -	Government of Bombay -	14 Aug. "	Cultivation of Peruvian cotton -	496
73	Ditto - - -	Ditto - - -	8 Nov. "	- - - -	496
	Resolution of Government	- - -	19 Dec. "	Distribution of cotton seeds sent from England.	497
74	Secretary to Government	Chamber of Commerce -	20 Nov. "	Inquiry what has been done towards awarding prizes.	497
	Ditto - - -	Revenue Commissioner, n.d.	- - -	Ditto - ditto - - -	497
	Ditto - - -	Revenue Commissioner, s.d.	- - -	Ditto - ditto - - -	497
75	Chamber of Commerce -	Secretary to Government	29 Nov. 1862	Reply to the above - - -	497
	Mr. Bethcome, Kurrachee	Chamber of Commerce -	5 July "	- - - -	498
	Ditto - - -	Ditto - - -	- - -	- - - -	498
	Ditto - - -	Ditto - - -	8 Aug. "	- - - -	500
	Chamber of Commerce -	Mr. Bethcome - - -	30 Aug. "	- - - -	500
	Mr. Bethcome - - -	Chamber of Commerce -	6 Sept. "	- - - -	501
76	Secretary to Government	Commissioner in Sind -	13 Dec. "	Forwarding the above papers, and calling upon him to ascertain whether Mr. Bethcome has complied with the conditions necessary in submitting samples for competition.	501
77	Secretary of State - -	Government of Bombay -	13 Nov. "	Offer of sale to Government by the Manchester Cotton Company of machinery for gins.	501
78	Ditto - - -	Ditto - - -	17 Dec. "	Ditto - ditto - - -	502
79	Government of Bombay -	Secretary of State - -	28 Jan. 1863	Ditto - ditto - - -	502
	Dr. Forbes - - -	Secretary to Government	22 Dec. 1862	- - - -	503
80	Secretary of State - -	Government of Bombay -	17 Feb. 1863	Forwarding Peruvian cotton seeds -	504

IV.—HOME CORRESPONDENCE.

No.	FROM	TO	DATE.	SUBJECT.	PAGE.
1	Dr. Forbes - - -	Under Secretary of State for India.	4 Jan. 1861	Desire of Dharwar cotton growers to be supplied with cattle-power machinery	505
	Extract from Monthly Report by mechanical Superintendent of Dharwar Cotton Gin Factory.	- - -	31 July 1860	- - - -	506
2	Mr. Merivale - - -	Dr. Forbes - - -	18 Jan. 1861	Dr. Forbes authorised to procure two cattle-power saw gins.	506
3	Mr. Fischer - - -	Sir C. Wood - - -	Jan. "	Offering to propound a scheme for averting the ruin and distress of the millions of Manchester for suitable remuneration.	506
4	Mr. Haywood - - -	Sir C. Wood - - -	20 Feb. "	Formation of a Manchester Cotton Company.	507
5	Mr. Merivale - - -	Mr. Haywood - - -	25 Feb. "	Services of Dr. Forbes placed at the disposal of the Manchester Cotton Company.	507
6	Ditto - - -	Mr. Fischer - - -	16 Mar. "	His letter forwarded to the Cotton Supply Association.	508
7	Ditto - - -	Secretary Manchester Cotton Supply Association	14 May "	Mr. Shubrich's experiments in the culture of Egyptian cotton in Chingleput.	508

No.	FROM	To	DATE.	SUBJECT.	PAGE.
8	Mr. Monckton - - -	Sir C. Wood - - -	22 June 1861	Measures for enabling India to compete with other countries in producing cotton.	508
9	Mr. T. W. Hamilton -	Sir C. Wood - - -	27 June "	Requesting information as to the position of Englishmen settling in India	511
10	Mr. Merivale - - -	Mr. Monckton - - -	9 July "	Acknowledging receipt - - -	511
11	Mr. Platt - - -	Sir C. Wood - - -	25 Oct. "	A vessel sent out by the Manchester Cotton Company, to sail in a few days for Sedasbeghur.	511
	Extract from Mr. Haywood - - -	- - -	26 Sept. "	Settlement of N. Canara boundary -	512
12	Mr. Merivale - - -	Mr. Platt - - -	28 Oct. "	Prosecution of the pier at Sedasbeghur and road to Dharwar have been sanctioned.	512
13	Mr. Dunlop - - -	Under Secretary of State for India.	18 Dec. "	Order for saw gins from Dr. Forbes -	513
	Dr. Forbes - - -	Mr. Dunlop - - -	8 Nov. "	- - - - -	513
14	Mr. Baring - - -	Ditto - - -	24 Dec. "	- - - - -	515
15	Ditto - - -	Secretary to the Cotton Supply Association -	24 Dec. "	Mr. Dunlop authorised to manufacture saw gins, and the Association requested to examine them.	515
16	Mr. Dunlop - - -	The Under Secretary of State for India.	26 Dec. "	- - - - -	515
17	Mr. Sutton - - -	Ditto - - -	27 Dec. "	- - - - -	516
18	Mr. Dunlop - - -	Mr. Prideaux - - -	30 Dec. "	Time for delivery of saw gins - -	516
19	Mr. Baring - - -	Mr. Dunlop - - -	9 Jan. 1862	- - - - -	516
20	Ditto - - -	Secretary to Cotton Supply Association.	9 Jan. "	Requested to take charge of saw gins	517
21	Mr. Merivale - - -	Mr. Sutton - - -	22 Mar. "	Expenses incurred in relation to the saw gins.	517
22	Ditto - - -	Mr. Hammond - - -	9 May "	Cotton crop in America - - -	518
23	Mr. Layard - - -	Mr. Merivale - - -	10 May "	Formation of a cotton company at Rotterdam.	518
24	Mr. Baring - - -	Mr. Sutton - - -	29 May "	Acknowledging receipt of circulars containing information as to requisites for the improvement of Indian cotton.	518
25	Mr. Edwards - - -	Sir C. Wood - - -	23 July "	Formation of a cotton and Godavery Steam Navigation Company.	518
26	Mr. Baring - - -	Mr. Edward - - -	28 July "	- - - - -	519
27	Mr. Hammond - - -	The Under Secretary of State for India.	23 Oct. - -	Cotton crop in America - - -	520
	Extract of a report from a gentleman attached to H. M. Legation at Washington.	- - -	- - -	- - - - -	520
28	Mr. Merivale - - -	Mr. Hammond - - -	29 Oct. "	Cotton crop in America - - -	521
29	Mr. Merivale - - -	Mr. Lawrie - - -	4 Dec. -	As to the sale of a site at Bombay -	521

COPY of CORRESPONDENCE, from the 1st day of January 1861 to the present Time, between the Secretary of State for *India* and the Governor General, or other Persons in *India*, on the Subject of COTTON CULTIVATION in *India*, and the Prospects of Supplies of that Article to this Country during the present Year.

— I. —

I N D I A.

— No. 1. —

(No. 46.)

To the Right Honourable Sir *Charles Wood*, Bart., M. P., Her Majesty's Secretary of State for India.

I.
India.

Fort William, Foreign Department,
16 June 1860.

Sir,

WITH reference to para. 104 of our letter to the Honourable the Court of Directors, No. 1, dated 8th January 1857, we have the honour to transmit copy of a letter from the Resident at Hyderabad, dated 18th May last, reporting the results of the trials made in the culture of exotic cotton in the Hyderabad assigned districts.

2. In connexion with the above, we also transmit copies of the following correspondence with the Resident at Hyderabad, and the Chamber of Commerce.

To Resident, No. 1790, A. dated 20th April 1857.

From ditto, No. 212, dated 18th November 1857.

To Secretary, Bengal Chamber of Commerce, No. 5081, dated 14th December 1857.

From ditto, dated 15th January 1858.

To Resident, No. 482, dated 2d February 1858.

We have, &c.

Canning.

H. Rose.

H. B. E. Frere.

J. Wilson.

Enclosure 1 in No. 1.

(No. 75 of 1860.)

From Lieutenant Colonel *C. Davidson*, Resident at Hyderabad, to *Cecil Beadon*, Esq., Secretary to the Government of India, Foreign Department, Fort William, dated Hyderabad, 18 May 1860.

Sir,

I HAVE the honour to submit, for the information of the Government of India, a report of the trials made in the culture of exotic cotton in the Hyderabad assigned districts since the date of my report, No. 212, of the 18th November 1857, on the subject. Civil Department.

2. I regret exceedingly that the experiments on exotic cotton in these districts may be considered a failure up to the present time; but I shall direct that the trials be still proceeded with.

I.
India.

3. In regard to the cotton gins received from the Manchester Cotton Supply Association, on which I had promised to furnish the Government with a report in my report on the administration of the Hyderabad Assigned Districts for the year 1858-59, it is clear to me that the natives of India neither understand their adjustment, nor how to use them, to which may be fairly attributed the want of success that has attended the experiments made with them.

4. I now proceed to report on the several supplies of exotic cotton seed received from the Government of India, or from other sources during the period under review.

5. *Supply, No. 1.—Egyptian Cotton Seed received from Calcutta on the 26th December, 1857.*—On the 8th of July 1857, the Government of India intimated to the Resident that the secretary to the Bengal Chamber of Commerce had been requested to forward to Hyderabad 14 cases of Egyptian cotton seed, and directed that the seed should be fairly tried in this province, and the result reported for the information of Government.

6. This supply was received at Hyderabad on the 26th December 1857, and despatched to the Deputy Commissioners in the Hyderabad assigned districts on the 4th January following.

7. *Supply, No. 2.—Egyptian Cotton Seed and Brazilian Cotton Seed received from Calcutta on the 9th of March 1859.*—On the 31st December 1857, the Government of India advised the Resident that the Superintendent of Marine had been instructed to forward to Hyderabad four bags and a half of Egyptian, and one of Brazilian cotton seed for experimental culture, and requested that a report of the result of the sowings of this supply also should be submitted for the information of Government.

8. This supply did not reach Hyderabad till the 9th of March 1859, and it was despatched to the districts on the 11th of the same month.

9. *Supply, No. 3.—New Orleans Cotton Seed received from Dharwar in August 1858.*—In March 1858, at the suggestion of Captain Meadows Taylor, then Deputy Commissioner of West Berar, the Commissioner of the Hyderabad assigned districts, recommended to the Resident the purchase of 10,000 lbs. of seed of the New Orleans cotton grown at Dharwar, which it was stated could be procured for Rs. 772. 8., inclusive of carriage to Hyderabad. The Resident sanctioned the measure, but the seed was not received in the district till September 1858, too late for a satisfactory experiment that season. A small quantity notwithstanding was distributed in West Berar to each tehsildar for trial.

10. On the 16th June 1858, the secretary to the Manchester Chamber of Commerce solicited the Resident's assistance in the extension of the cultivation of exotic cotton in the Nizam's territories and the Hyderabad assigned districts, and promised to send some of the best New Orleans cotton seed, and the most approved gins for cleaning cotton, and requested to be informed what quantity of seed and number of gins would be required.

11. The Resident expressed his willingness to further the views of the Manchester Cotton Association, and asked to be supplied with 3,900 lbs. of New Orleans cotton seed and 10 gins. He at the same time recommended that the seed should be sent so as to reach Bombay by April, or early in May, with a view to its being distributed throughout the districts by the beginning of June.

12. *Supply, No. 4.—New Orleans Cotton Seed received from England in May 1859.*—This supply of seed, with 10 of "Macarthy's Cotton Gins," was despatched by the Manchester Cotton Association in November 1858, and was received in the districts in May 1859.

13. *Experiments with Supply No. 1, in East Berar.—Egyptian Cotton Seed.*—Of the supply, No. 1, of Egyptian cotton seed received from Calcutta, and sent into the districts in January 1858, the Officiating Deputy Commissioner of East Berar reports that a portion of the seed was tried in a garden at Nursee, but the plants, though irrigated, withered a few days after they had sprung up. That another small quantity was tried by the Deputy Commissioner himself, in his garden at Hingolee, but it likewise failed; only one or two seeds sprouted, and then died off; other trials were also made, but, as a general rule, afforded no good result.

14. *Experiments with Supply No. 1, in West Berar.—Egyptian Cotton Seed.*—The report from West Berar of the sowings of the seed from this supply shows that the trials there also ended in a similar result.

15. *Experiment with Supply No. 1, in the Dharaseo District.—Egyptian Cotton Seed.*—The Deputy Commissioner of the Dharaseo district states, in regard to the experiments tried with this seed in his division, that from the reports received by him from the tehsildars, the plants died when they were a few inches high; but that a trial made by himself in his garden was more successful. That about three-tenths of an acre was sown; that probably from the seed being old it did not come up very regularly, but the bushes were healthy, and attained a height of from four to five feet. The produce in cleaned cotton was 31 lbs., which gives about 100 lbs. to an acre. That the crop would have been larger had the plants

plants come up regularly. The soil is stated to have been a deep rich one, thrown up by a river, and was manured. Half the crop was watered several times; but there did not appear to be any material difference between the irrigated and unirrigated plants. The proportion of seed to cotton was about two to one. The cotton plants were left in the ground, and the produce in the year 1859 promised to be larger than that of the preceding year. Some of the seed grown in 1858 was sown at the commencement of the monsoon in 1859, and in consequence of its being fresh, the whole of it germinated. The plants were about two feet high, and the crop promised to be a good one. The Deputy Commissioner promised a further report regarding the savings of 1859, and forwarded a sample of the cotton grown in 1858, which sample is herewith submitted.

16. *Experiments with Supply No. 1, in the Raichore Doab.—Egyptian Cotton Seed.*—The report from the Raichore Doab shows that the results of the sowings of this supply in that district has not been satisfactory.

17. *Experiments with Supply No. 2, in East Berar.—Egyptian and Brazilian Cotton Seed.*—In regard to the supply, No. 2, of Egyptian and Brazilian cotton seed received from Calcutta, and sent to the districts in March 1859, the Deputy Commissioner of East Berar reports that the two descriptions of seed reached that district in good order about the commencement of the monsoon; that ground had been prepared in different localities, and of different descriptions, so that every precaution had been taken for ensuring the seed a fair trial on its arrival. He states that the result, he has no doubt, would have been more favourable had the seed reached the district a month earlier.

18. The monsoon rain, he observes, had set in early, and at first the season promised to be a favourable one, but the seed did not reach till after the first fall of rain. Long breaks in the monsoon took place, and the crops, from want of sufficient moisture, did not attain their average size, the cotton generally being more than usually stunted.

19. The Brazilian cotton seed, he reports, failed in a very unaccountable way. The plants sprang up and looked very healthy until they were about six inches high, when they became blighted, and withered away.

20. The Egyptian cotton seed has been more successful, but some plants in the field having succeeded while others failed, leads to the impression that the seed was either not all of one season, or was not quite fresh.

21. Some of the seed succeeded remarkably well, the plants being strong and healthy, nearly four feet high, and bearing very large pods, and not having that degenerated appearance which the cotton had assumed in many places during the year.

22. Samples of cotton grown in East Berar have been forwarded by the Deputy Commissioner, and are herewith transmitted.

23. Instructions have been issued by the Deputy Commissioner that the seed of the experimental cotton which has been tried in 1859 be carefully kept for further experiment during the coming monsoon.

24. From the experiments made last year in East Berar, the Deputy Commissioner thinks, that were good fresh Egyptian cotton seed to be imported at the proper time, so as to reach the district about the end of April, much better results might be expected than have been above described.

25. The cotton produced from the Egyptian seed appears to be of a superior quality to that grown from indigenous seed in Berar, but it would require more attention to its cultivation than the natives pay to the cultivation of the indigenous cotton.

26. *Experiments with Supply No. 2, in West Berar.—Egyptian and Brazilian Cotton Seed.*—The report from the Deputy Commissioner, West Berar, shows that the result of the experiments tried in that district with the Egyptian and Brazilian cotton seed was an entire failure, which is attributed by that officer to the seed being old, and having lost its germinating properties in consequence.

27. *Experiments with Supply No. 2, in the Dharaseo District.—Egyptian and Brazilian Cotton Seed.*—The experiments in the Dharaseo District, with the seed of this supply, was likewise a failure.

28. *Experiments with Supply No. 2, in the Raichore Doab.—Egyptian and Brazilian Cotton Seed.*—No special report has been received from the Raichore Doab of the result of the sowings of the Brazilian cotton seed of this supply, but, from a report by Captain Meadows Taylor, Deputy Commissioner of that district, it would appear that the Egyptian cotton seed succeeded remarkably well. A good deal of valuable seed, he states, will be saved this year (1860), and will be distributed for further trial. The cotton grown is fine in quality, and the plant grows and bears well, with every prospect of improvement. The Egyptian cotton seed, Captain Taylor observes, grows better and is more productive than the New Orleans in the ordinary black soil. Of 10 seers of cotton of this description, produced in the Raichore Doab, the yield, when ginned, was $2\frac{1}{2}$ seers cotton and $7\frac{1}{2}$ seers seed, which is an average result.

I.
India.

29. The following, however, taken from a report by Mr. Ricketts, Assistant Commissioner in charge of the Raichore Doab of a subsequent date, is not satisfactory.

30. He observes that such experiments as those reported by Captain Taylor are not safe criterions to go by; that the yield, in these isolated cases, where care, skill, and labour are expended, is astonishing, not only in the case of exotic, but also of indigenous cotton; but these instances, though they may stimulate the ryots to follow the example set them, are, perhaps, useless in reporting on a staple product which is to be grown and sold by the ryots in their own way. Mr. Ricketts' report, in fact, shows that the results of the experiments in regard to the New Orleans cotton seed have been more unfavourable than those of the preceding year, and that the Egyptian and Sea Island cotton was almost a total failure; but this want of success is attributable chiefly to the want of rain in the Raichore Doab during the year 1859. In a further report received from Mr. Ricketts, that officer states that the Egyptian and Brazilian cotton seed having been put down only experimentally, and in isolated parts of the district, no average statement of selling price can be given with any degree of certainty. That specimens grown in the cantonment of Lingsoogoor appear similar, even if not superior, in fibre and staple to New Orleans, though the general colour does not appear to be so good, as irrigation seems to discolour and blight a certain proportion of pods; the selling price, however, he states, may be calculated at from one anna and seven pies to one anna and eight pies per lb.

31. *Experiments with Supply No. 3, in West Berar.—New Orleans Cotton Seed from Dharwar.*—Of the New Orleans cotton seed received from Dharwar for experimental culture in West Berar, the Deputy Commissioner states that the seed sprang up in seven or eight days, and appeared healthy; that in about three months the plants were in blossom, bore three or four pods each, and attained the height of about two feet; that after the first picking all the plants withered and dried; and that the average of cotton obtained per beegah was about 40 lbs.

32. The seed was tried in both the descriptions of soil in which the "jerry" and "bunny" (indigenous parts of cotton) are grown in the district; and the seed, the Deputy Commissioner observes, may therefore be said to have had a fair trial; but, notwithstanding, it is found that the cotton, per beegah, is only equal to about one-third of what is produced from the cotton seed indigenous to Berar, which fact greatly tends to discourage the introduction of this new cotton into these districts. It is also the opinion of the ryots that the black soil of Berar is not well suited to the production of foreign cotton, as the plants generally present a stunted and poor appearance.

33. The Deputy Commissioner states that the average price of the Dharwar cotton in West Berar is 2 annas 6 pies per lb., which is the same as that for the descriptions of cotton indigenous to Berar. The Dharwar New Orleans cotton, it is admitted by all, is superior to that of Berar; but as the quantity produced in that district is small, no proper value is fixed on it. Samples of the New Orleans cotton, grown in different soils in West Berar, and of the indigenous cotton, have been forwarded by the Deputy Commissioner, and are herewith submitted.

34. *Experiments with Supply No. 4, in East Berar.—New Orleans Cotton Seed from Manchester.*—The report from East Berar shows that the New Orleans cotton seed received from the Manchester Cotton Supply Association, did not germinate in that district.

35. *Experiments with Supply No. 4, in West Berar.—New Orleans Cotton Seed from Manchester.*—The West Berar report exhibits a similar result with this supply of seed.

36. *Experiments with Supply No. 4, in Dharaseo District.—New Orleans Cotton Seed from Manchester.*—The Deputy Commissioner, Dharaseo District, reports that the New Orleans cotton seed received from Manchester has entirely failed in that division. He states that he had a part of a garden, at Nuldroog, sown with it, but a small number only of the seeds germinated. The plants that did come up were stunted, and a very small quantity of cotton was produced. It seems clear, he states, that the seed was old; and when endeavouring to introduce a new species of cotton, it is of the greatest importance that the seed should be good, for if it is not, it will be difficult to induce the ryots to expend their labour on it a second time. The Deputy Commissioner promises to forward a specimen of the cotton from this growth.

37. *Experiments with Supply No. 4, in the Raichore Doab.—New Orleans Cotton Seed from Manchester.*—The report from the Raichore Doab shows that none of the New Orleans cotton seed received from Manchester vegetated in that district. The Deputy Commissioner, however, states that the average selling price of New Orleans cotton in the Raichore Doab, grown from seed produced by the ryots from Dharwar, is about 5 rupees per candy above the selling price of indigenous cotton. More extended sowings of exotic cotton will be made this year in the Government gardens and by tehsildars, so as to retain the interest in the matter and keep in hand a good supply of seed.

38. *"Macarthy's Cotton Gins" received from the Manchester Cotton Supply Association.*—Of the ten cotton gins received from Manchester, three were furnished to each of the districts of East and West Berar, and two to each of the divisions of the Raichore Doab and Dharaseo.

39.—*East Berar*.—The Deputy Commissioner of East Berar reports that it was some time before the gins could be properly adjusted, and when put into working order and tried, the results were by no means satisfactory. The gin, he observes, frequently gets jammed, and all who have seen the cotton which has passed through the gin, state that the staple has been torn and spoiled; and the opinion of all the natives who saw it was, that if they had their cotton passed through that gin, it would not fetch nearly so much in the market as when prepared by the native churka now in use.

40.—*West Berar*.—The Deputy Commissioner West Berar states that, in consequence of the injuries to the gins in transit to the district, they are out of order, and no artisans are to be found there who are capable of rendering them serviceable; but that as the railway engineers are shortly expected to arrive there, he hopes to have them put in working order, and promises a report after they have been tried.

41. *Dharaseo District*.—Of the results of the trial of the cotton gins in the Dharaseo district, no report has been received.

42. *Raichore Doab*.—The gins in the Raichore Doab would appear to be working satisfactorily, as the Deputy Commissioner states that the two received by him from Manchester are not equal to the wants of the district, and recommends that the number should be increased.

43. I would here beg to take this opportunity of submitting the results of a trial made by Captain Meadows Taylor in the Shorapoor district in 1859, of New Orleans cotton seed obtained by him from Dharwar.

44. Captain Taylor states that with this cotton he has tried a different soil and a different period of sowing than obtains in Dharwar; and it appears to him that the yield is more satisfactory, and the staple better and safer. In Dharwar this cotton is grown upon black soil exclusively, and sown in September. Captain Taylor's trial of the seed in this instance was in very ordinary red granite soil of a sandy quality, unmanured and unirrigated, and was sown in June. The fall of rain, he observes, at Shorapoor was unusually scanty, yet the plants were healthy and bear freely.

45. The cotton was gathered as if ripened, and was cleared from the seed by a common native churka. It has not been specially cleared or picked.

46. It will, he states, be of great importance to the ryots in the Shorapoor districts if it is found that the New Orleans cotton grows and bears well on red soil in which the indigenous cotton does not answer at all. In the present instance the sowings were of very limited extent, but he has no doubt that they can be very widely spread if the result continues as it now promises.

47. Captain Taylor forwarded a sample of this cotton to Messrs. Robert Strong & Co., of Bombay, for transmission to the Manchester Cotton Supply Association, on which the following opinion was given by them:—

“The sample arrived this morning, and has been examined by two other parties of experience in the cotton trade, as well as by ourselves, and the conclusion come to is, that the sample is all that could be desired by those interested in promoting the cultivation of good cotton in this country, and it is believed that any quantity of this quality would find a ready sale in Liverpool at the full rates for fair Orleans, at present 7½ d. to 8 d. per lb. We have never had an opportunity of comparing this sample with cotton grown in black soil, but are inclined to believe that the mode of culture adopted by you is peculiarly suited to this description of seed. My sample of New Orleans growth in this country having been seen here to equal yours, we may add that one of the parties above referred to is the Secretary to the Chamber of Commerce, who has been paying great attention to the results of the cultivation of exotic cotton. It was remarked in reference to the cleaning of your sample, that the churka had been very successful, whereas Dr. Forbes reports the churka to be entirely useless for cleaning American seed cotton. We mentioned this that you may observe if there is any greater difficulty in extracting the seed by this machine from this class of cotton than from the indigenous varieties.”

48. In forwarding the above opinion, Captain Taylor adds, as far as this goes, this is the most satisfactory experiment he has yet made in exotic cotton, and that he will do his best to extend the cultivation next year in red or mussub soil, which, he is strongly inclined to think, is much more favourable to the culture of the New Orleans variety than black soil.

49. The seed, however, he remarks, should be sown in June; and if early sowing is carefully attended to, the plant begins to bear at the latter end of October, and continues to do so as long as February and March.

50. The sowing, he states, in Shorapoor in 1859, is hardly a fair trial, the soil of the plot of ground being very poor, and not manured or ploughed; but under the encouragement afforded by the trial, better land will be selected next season, with, he trusts, more certain effect, both as to quality and quantity.

51. He forwards a sample of this cotton, being a duplicate of that sent to Messrs. Robert Strong & Co.

Samples will be forwarded to Commissariat Agents at Masulipatam, for transmission to your office in Calcutta.

52. I beg to append a list of the samples of cotton received from the district officers, and referred to in this Report.

Hyderabad Residency,
18 May 1860.

I have, &c.
C. Davidson,
Resident.

LIST of SAMPLES of Cotton grown in the Hyderabad Assigned Districts, and in the Shorapoor Territory, forwarded with Despatch No. 75, dated 18 May 1860, to the Secretary to the Government of India, Foreign Department, Fort William.

SAMPLES from *East Berar*.

No. 1 A.

A specimen of the Egyptian cotton in first-class garden land, but not irrigated. The plants grew of two heights, three feet and two feet. The pods were $1\frac{1}{2}$ times larger in size than that of the country cotton, but were fewer in number than the pods of the country cotton plants. This is accounted for by the seed having reached a month late, and the plants not having attained their full size in consequence. The plants which grew three feet high had 15 to 22 pods each; the two-foot plants only had from eight to ten. The experimental cotton produced on an average 11 or 12 pods less than the native cotton in the same locality. The smaller quantity of pods may be well accounted for by the seed arriving rather late, and the two descriptions of plants would seem to show that the seed was mixed.

No. 2 A.

A specimen of Egyptian cotton from first-class black soil. The field in which this was tried was one-half manured and one-half left without manure. In the manured portion the cotton grew three feet high, and in the other portion two feet. The pods of the large plants were, as in the former case, $1\frac{1}{2}$ times larger than the country pods, and each plant had from 15 to 20 pods. The smaller plants became blighted, and bore only eight or ten small pods each. The large plants produced about 10 pods fewer than the native cotton under similar circumstances.

The reports which accompanied the specimen from the district shows that the seed did not come up regularly, in many places not at all. Of seven or eight villages in which it was tried it succeeded in one only, and there very partially.

No. 3 A.

A specimen grown in second-class black soil. The plants obtained the height of two and three feet. The plants bore, on the average, the same number of pods as the native cotton grown in similar situations, but the report states that the plant had a dried-up appearance. The large plants had from five to fifteen, and the smaller from three to ten pods, but the pods were $1\frac{1}{2}$ times larger than those of the country cotton. In one instance only an eighth part of the seed sown succeeded, the rest failed entirely; while in another the plants came up well; but when the pods filled, half of them fell off the plant.

No. 4 A.

Is a specimen of the cotton of the country known as Jerry. The pods are heavier than those of the other country cotton known as Runny; and the cotton is rather whiter, and fetches a little higher price in the market.

No. 5 A.

A specimen of the country cotton known as Bunny, and which is the sort most cultivated in the south of the district; the seed is sown in the commencement of the rains, and the crop is ready in the month of November.

Another point which may be worthy of notice is, that the Bunny cotton produces a great quantity of seed to a very small quantity of cotton. On weighing a quantity of this description previous to and after it had been separated from the seed, it was found that the seed weighed three times as much as the cotton, or that four pounds' weight of cotton taken from the plant produced three pounds of seeds, and one pound of cotton.

The same experiment was tried with Jerry cotton and with the Egyptian cotton, and it was found that three pounds taken from the plant produced on an average about two pounds of seeds and one pound of cotton.

SAMPLES from *West Berar*.

No. 1 B.—Cotton produced at Akote from New Orleans cotton seed, received from Dharwar.

No. 2 B.—Cotton produced at Dawulghaut from ditto.

No. 3 B.—Bunny cotton grown at Dawulghaut.

No. 4 B.—Jerry cotton grown at Akote.

COTTON CULTIVATION IN INDIA.

7

SAMPLES from *Raichore Doab.*

I.
India.

No. 1 D.—Indigenous cotton.

No. 2 D.—New Orleans.

Shorapoor.

No. 1 E.—New Orleans cotton grown in red granite soil.

Enclosure 2, in No. 1.

(No 1910 of 1860.)

From *C. W. Aitchison*, Esq., Under Secretary to the Government of India, to Lieutenant Colonel *C. Davidson*, Resident at Hyderabad; dated Fort William, 13 June 1860.

Sir,

I HAVE the honour to acknowledge the receipt of your letter, dated 18th ultimo, No. 75, reporting the results of the trials in the culture of exotic cotton in the Hyderabad Assigned Districts, and, in reply, I am directed to state that a copy thereof has been furnished to the Agricultural Society. Foreign Department.

2. A copy will also be forwarded to the Secretary of State, for the information of Her Majesty's Government.

I have, &c.

C. W. Aitchison,

Under Secretary to the Government of India.

Enclosure 3, in No. 1.

(No. 1909 of 1860.)

From the Under Secretary to the Government of India, to the Secretary to the Agricultural Society, Calcutta; dated Fort William, 13 June 1860.

Sir,

I AM directed by the Governor General in Council to forward, for the information of the Agricultural Society, the accompanying copy of a letter from the Resident at Hyderabad, dated 18th ultimo, No. 75, reporting the results of the trials made in the culture of exotic cotton in the Hyderabad Assigned Districts. Foreign Department.

I have, &c.

C. W. Aitchison,

Under Secretary to the Government of India.

Enclosure 4, in No. 1.

(No. 1790 A. of 1857.)

From *G. F. Edmonstone*, Esq., Secretary to the Government of India, to Lieutenant Colonel *C. Davidson*, Resident at Hyderabad; dated Fort William, 20 April 1857.

Sir,

THE Government having been supplied with some Egyptian cotton seed, I am directed by the Governor General in Council to acquaint you that 10 bags of it will be despatched to your address by Mr. William Blundell of Calcutta, who has kindly undertaken to do so. Foreign Department.

2. On the arrival of the seed, you will take steps for giving it a fair trial.

I have, &c.

G. F. Edmonstone,

Secretary to the Government of India.

(No. 1790 B. of 1857.)

Similar letter to Major *P. P. Phayre*, Commissioner of Pegu.

I.
India.

(No. 212 of 1857.)

Enclosure 5, in No. 1.

From Lieutenant Colonel *Cuthbert Davidson*, Resident at Hyderabad, to *G. F. Edmonstone*, Esq., Secretary to the Government of India, Foreign Department, Fort William; dated Hyderabad Residency, 18 November 1857.

Civil Department.

Sir,

WITH reference to your letter, No. 3571, of the 30th June 1856, intimating the despatch of two cases of cotton seed presented by Mr. Blundell, through the Bengal Chamber of Commerce, and requesting that the result of the sowings might be forwarded for the information of Government, I have the honour to enclose copies of communications upon the subject as noted in the margin.

Letter No. 2187, of 11th November 1857, from the Commissioner Hyderabad Assigned Districts to the First Assistant Resident, with its enclosure. A Letter, No. 28, of the 20th November* 1857, from Mr. R. Viccajee, Extra Assistant Commissioner (First Class), to Lieutenant Taylor, Officiating Deputy Commissioner, Raichore Doab.

* Sic. in original.

2. The seed appears to have reached the districts, unfortunately, too late in the season to admit of its being cultivated with a fair chance of success, and I would therefore beg to support the suggestion made at the conclusion of Mr. Maltby's letter, that a further supply of good fresh seed be despatched, so as to arrive in the districts by April, and that the information may be afforded as to the kind of land in which this cotton should be grown, at what season it should be planted, whether the young shrubs require water, what distance there should be between them, and the average yield in its native land per acre.

3. Mr. Maltby alludes to the cotton grown under the superintendence of the late Resident in the residency gardens; but it would appear, from inquiries which have been made, that this cotton was not produced from the seed under present notice, but from that supplied in the preceding year; the result being fully reported on in the letter to your address, No. 23 of the 26th March 1856, since which period no further experiment was made in the residency gardens. My own experience leads me to think that the soil in these grounds will never be a fair criterion of what the results of sowing good cotton seed in the assigned districts may lead to, as it is not, what is generally supposed, adapted to the culture of cotton.

4. The Egyptian seed referred to in your letter, No. 1790 A. of the 20th April last, and which was received here on the 24th June, was immediately despatched to the Commissioner for distribution in the districts, but I fear that this also would reach the Deputy Commissioners too late for a satisfactory trial, but its success or failure shall be duly made known to you.

I have, &c.

C. Davidson, Lieutenant Colonel,
Resident at Hyderabad.

(General Financial, No. 2187 of 1857—Departmental, No. 545.)

From *F. N. Maltby*, Esq., Commissioner, Hyderabad Assigned Districts, to Captain *A. R. Thornhill*, 1st Assistant Resident, Hyderabad; dated Commissioner's Office, Bolarum, 11 November 1857.

Sir,

WITH reference to your letter, No. 72, dated 15th July 1856, on the subject of two cases of cotton seed which you requested might be distributed to the district officers, and that they might be called upon to furnish a report on the result of the sowings for communication to Government, I have the honour to state as follows:—

2. In North Berar the cotton seed was made over by the Deputy Commissioner to Captain Davis, Superintendent of Police, who distributed it about the district, and on the 20th April last reported to the Deputy Commissioner that, owing to the lateness of the sowings, the seed had failed throughout the district, whenever distributed, with the exception of that sown in his own garden, which he states would have given a good crop had it been planted earlier.

3. A specimen of the result of this sowing I have the honour to forward for transmission to Government.

4. From South Berar Captain Campbell reports: "None of the seeds experimented with flowered, it having withered when a few inches high. The seed was not fresh, and reached this district two or three months after the season at which cotton is here sown."

5. Captain Meadows Taylor, Deputy Commissioner, Nuldroog District, states, he distributed the seed forwarded to him to all the talooks of his district; that it was sown carefully, but did not come up in any locality.

6. In

Financial.

Transmitted by
Mr. Secretary Ed-
monstone, with his
Letter No. 3571,
dated 30th June
1856.

Sent to the Bombay
Chamber of Com-
merce.

6. In the Raichore Doab the seed generally is reported to have failed, owing to its not having been sown in season, and it is believed also the seed was bad, as it did not germinate.

7. Mr. Rustomjee Viccajee, Assistant Commissioner, has however succeeded in rearing 40 plants. A copy of his report on the subject, which will be read with interest, I have the honour to enclose. It would not perhaps be safe to draw a very sanguine conclusion, from the limited experiment reported by Mr. Viccajee, but there is every appearance of the cotton produced being in every way superior, and much more remunerative than the indigenous cotton of the country.

8. A specimen of the cotton grown by Mr. Viccajee is forwarded with his letter, and I should be glad to be favoured with the opinion of the Chamber of Commerce on it, as well as on that produced in North Berar.

9. The late resident took a great deal of interest in the subject of cotton; a considerable portion of the seed now under report was sown in his own garden at the residency, and with complete success; a specimen of the cotton produced was sent, I think, to the Chamber of Commerce at Bombay, and was pronounced to be extremely fine, and, it was said, would fetch a high price in the home market. It is very probable Mr. Bushby has made a report of this sowing under his own superintendence. In conclusion, I would request that as the result of this sowing of Sea Island cotton seed in these districts may, on the whole, be considered highly promising, a further supply of good fresh seed may be sent to me, so as to reach this by April, when further experiments will be made.

10. I should also feel obliged for any hints as to the kind of land in which this cotton should be grown, at what season it should be planted, whether the growing shrubs require water, and what distance there should be between them, also the average yield in its native land per acre.

I have, &c.

F. N. Maltby,
Commissioner H. A. Territories.

(No. 28 of 1857.)

From *R. Viccajee*, Esq., First Class Extra Assistant Commissioner, to Lieutenant *R. N. Taylor*, Officiating Deputy Commissioner Raichore Doab; dated Linsoogoor, 20 November 1857.

Sir,

I HAVE the honour to report the following particulars, being the result of the sowing of the Sea Island cotton seed forwarded to me towards the end of November 1855.

2. The season for the plantation of cotton in this country begins from the middle of August, and a month after that time the sowing of cotton is entirely given up for the season.

3. It being late when the seeds arrived, the under-mentioned spots were selected where there was sufficient moisture to make up for the lateness of the season. However, the experiment failed in three places, but succeeded partially.

4. In Couroor 2½ lbs. of seeds were entrusted to the lutwaree of that place, which were sown by hand at a distance of six to nine inches from each other; they were watered every third day for nearly a month, but not a single plant shoot out, whereas the country cotton seed generally springs up in about eight days after sowing.

5. In Ulwundee and Copal a similar process was observed, but the result was alike.

6. In Bahdurbunda I had the seeds sown on a different plan; 400 seeds were set by hand on the 27th November 1855 at a distance of a yard from each other, in a part of garden land belonging to Mohdeen Naik of Copal; they were watered twice a week; and of the above 400, 40 plants only made their appearance in 12 to 15 days after sowing, and these were at a distance of from one to eight yards from each other. In about four months thereafter, or in the beginning and middle of April, when the trees were about a yard high, the plants began to flower, and in a fortnight pods were gathering on them. In nearly a month after this, the pods were ripe and fit to be plucked, which yielding continued plentifully for a period of five months, or till the end of October 1856, during which time the trees were growing bigger as well as bearing fresh pods. At this stage the trees had grown as high as two yards, and in circumference from four to five yards. From the time they began to flower up to the time when all the cotton was picked they were watered once a week. For a month, viz., November, the leaves began to drop, and for two months, viz., December and January, the trees were perfectly naked. From the month of February 1857 the trees began to sprout, and, at the present time, are in full foliage and bearing cotton.

7. From the above it will be observed that towards the end of October 1856 the trees ceased yielding cotton and the leaves had begun to drop, whereas in the October of this year, 1857, the trees only commenced bearing and yielding cotton, and from their appearance,

I.
India.

ance, it seems that the crops will be more plentiful this year. This change may be attributed to the seeds having been first planted nearly three months later than the usual time of setting.

8. The 40 trees in question yielded the first season 63 lbs. of cotton and seed. For experiment, 6 lbs. of cotton were separated in my presence by a foot roller, when the quantity of wool was $2\frac{1}{2}$ lbs. and the seed $3\frac{3}{4}$ lbs.

9. The most remarkable differences between the cotton of the Sea Island seed and the cotton of this country are:—

1st. That the former took from 12 to 15 days to spring up, whilst the latter only takes about seven or eight days.

2nd. The former trees are of an extraordinary size, perhaps owing to the land having been prepared for gardening, and the plants occasionally watered; however, if the country cotton seeds are similarly treated they would never attain the same perfection.

3rd. The Sea Island cotton continued bearing for a period of five months, whilst the country seed does so for not more than a month and a half.

4th. The leaves having fallen, the same trees are again in full blossom and bearing, which is not the case with the cotton of this country, the plants never yielding more than one season.

And lastly. There is every reason to believe that an acre of land sown by Sea Island seed would produce 20 times more cotton than the country seed, provided the seeds are fresh, in which case I do not see any reason why we should fail in the growth of the Sea Island cotton. This will be elucidated from the following facts, that if 40 square yards were to yield 63 lbs of cotton and seed, an acre of land would yield 7,623 lbs., of which, according to the present experiment, 2,858 $\frac{1}{2}$ lbs. would be wool and 4,764 $\frac{1}{2}$ lbs. the seeds; whereas it has been ascertained in Belgaum and Darwar (*vide* Mackay's Western India, page 334), that the common average produce of country cotton in an acre of land is 266 lbs. of seed and cotton, of which 66 lbs. of clean cotton or wool is the yield to an acre.

10. The disparity of the aforesaid figures is such that it can hardly be credited, but the manner of trees and the produce they yielded leave no doubt respecting the conclusion arrived at; however, I am anxious to find out if possible from the Chamber of Commerce or any other quarter what is the yield of the Sea Island seed to an acre in its native land. It is desirable to know at what distance from each other and in what season the seeds are sown; water appears essential to their growth, consequently a month previous to the sowing of Rubbee crops (or in other words towards the end of June or in the beginning of July) their sowing would be preferable. Even if this cotton is sown in bagayut or jurree land, and were all the seeds to take root without fail, its produce is sufficient to pay all the expenses, and even ordinary bagayut rates of Government. This I calculate on the following hypothesis, based on the experiment of the 40 trees already grown: supposing the average price of a "ung" or bullock load of cotton (300 lbs.) is 25 rupees, the value of the produce (pure cotton only) of an acre of Sea Island cotton would be 238 rupees, so that if the bagayut rate be taken at 20 rupees an acre, it would leave a gross income more than sufficient to cover bagayut expenses, and to secure a reasonable profit to the cultivator.

11. I have distributed the Sea Island seeds which were separated from the aforesaid crop to several ryots in the hope that their plantation may be extended; and it is likely that the fresh seeds may grow, whereas those which were received from the Deputy Commissioner last year and the year before failed (with the exception of the 40 seeds in Bahdurbunda), owing perhaps to the seeds being old.

12. In conclusion I beg to observe that a reward might be given to the owner of the land where the aforesaid seeds were sown and taken care of, as a remuneration to him for the expense and trouble, and as an encouragement to others to extend the cultivation of this admirable and much needed staple.

I have, &c.,
R. Viccajee,
First Class Extra Assistant Commissioner.

Enclosure 6, in No. 1.

(No. 5081 of 1857.)

From R. Simson, Esq., Officiating Under Secretary to the Government of India, to the Secretary Bengal Chamber of Commerce; dated Fort William, 14 December 1857.

Sir,

Foreign Department.

I AM directed by the Governor General in Council to forward the accompanying copy of a report from Mr. R. Viccajee, Extra Assistant Commissioner of Singsoogoor, No. 28, dated

dated 20th ultimo, detailing the result of the sowing of the Sea Island cotton seeds supplied to him in November 1855, and to request that the Chamber will favour this Government with the information required in paragraph 10.

I.
India.

I have, &c.,
R. Simson,
Officiating Under Secretary to the Government of India.

Enclosure 7, in No. 1.

G. F. Edmonstone, Esq., Secretary to the Government of India, Foreign Department.

Bengal Chamber of Commerce, Calcutta,
15 January 1858.

Sir,
I AM directed to acknowledge the receipt of Mr. Officiating Under Secretary Simson's letter, No. 5081, of the 14th ultimo, accompanied by an interesting report on the result of the sowing of the Sea Island cotton seed in the district of Lingsoogoor, for which I am instructed to convey the thanks of the Committee of the Chamber of Commerce.

The information called for in the 10th paragraph of that report is given in Professor Royle's work, which states that the cultivation of Sea Island cotton obtains on an average from 200 lbs. to 250 lbs. of clear cotton from an acre of ground.

I have, &c.,
H. W. J. Wood,
Secretary.

Enclosure 8, in No. 1.

(No. 482 of 1858.)

From *C. Beadon, Esq.,* Officiating Secretary to the Government of India, to the Resident at Hyderabad; dated Fort William, 2 February 1858.

Sir,
WITH reference to your communication, dated the 18th November last, No. 212, Foreign Department, respecting the result of the sowings of the Sea Island cotton seed in the district of Lingsoogoor, I am directed by his Honor the President in Council to transmit to you the accompanying copy of a letter from the secretary to the Bengal Chamber of Commerce of the 15th ultimo on the subject.

I have, &c.
C. Beadon,
Officiating Secretary to the Government of India.

— No. 2. —

(No. 135.)

To the Right Honourable Sir *Charles Wood, Bart., M.P., G. C.B.,* Her Majesty's Secretary of State for India.

Fort William, Foreign Department,
8 October 1860.

Sir,
IN continuation of our letter (No. 46) dated 16th June last, we have the honour to transmit for your information copies of the papers noted on the margin respecting the culture of exotic cotton in the Hyderabad assigned districts.

Letter from Resident at Hyderabad, dated 1st June 1860. Letter from Secretary Agricultural Society, dated 7th July 1860. Letter from Secretary Agricultural Society, dated 26th September 1860.

We have, &c.
Canning.
H. Rose.
H. B. E. Frere.
C. Beadon.

I.
India.

Enclosure 1, in No. 2.

(No. 84 of 1860.)

From Lieutenant Colonel *C. Davidson*, Resident at Hyderabad, to *C. Beadon*, Esq., Secretary to the Government of India, Foreign Department, Fort William; dated Hyderabad Residency, 1 June 1860.

Sir,

Civil Department.

By Banghy Dāk.

WITH reference to para. 36 of my letter (No. 75) dated the 18th May 1860, reporting upon the trials made in the culture of exotic cotton in the Hyderabad assigned districts, I have the honour to intimate the Despatch to your address of a parcel containing specimens of cotton grown in the Dharasco district, received from the Deputy Commissioner of that division.

2. Sample No. 1 is from Egyptian cotton seed, mentioned in my report as Supply No. 1, received from your department in December 1857, and sent to the districts in January 1858, and the crop has been two years in the ground.

Sample No. 2 is from seed obtained from the above crop last year.

Sample No. 3 is from the New Orleans cotton seed received from the Manchester Cotton Association in May 1859, mentioned in my report as Supply No. 4.

3. The proportion of cleaned cotton to seed, the Deputy Commissioner reports, is as follows:

No. 1	-	-	-	-	one	-	-	-	-	10/11
No. 2	-	-	-	-	one	-	-	-	-	1/21
No. 3	-	-	-	-	one	-	-	-	-	17/23

and the produce per acre of cleaned cotton—

No. 1	-	-	-	-	-	-	107 lbs. 11 oz.
No. 2	-	-	-	-	-	-	44 lbs. 13 oz.
No. 3	-	-	-	-	-	-	26 lbs.

I have, &c.

C. Davidson,
Resident.

Enclosure 2, in No. 2.

(No. 2477 of 1860.)

From *C. U. Aitchison*, Esq., Under Secretary to the Government of India, to *A. H. Blechynden*, Esq., Secretary to the Agricultural Society, Calcutta; dated Fort William, 7 July 1860.

Sir,

Foreign Department.

IN continuation of my letter, dated 13th ultimo (No. 1909)), I am directed to transmit, for the information of the Agricultural Society, the enclosed copy of a further communication from the Resident at Hyderabad, dated 1st idem (No. 84), together with specimens of the cotton therein alluded to, and to request that the society will favour Government with their opinion as to the quality of the cotton.

I have, &c.

C. U. Aitchison,
Under Secretary to the Government of India.

Enclosure 3, in No. 2.

From *A. H. Blechynden*, Esq., Secretary to Agricultural and Horticultural Society, to the Secretary to the Government of India; dated Calcutta, Metcalfe Hall, 26 September 1860.

Sir,

I HAVE the honour to acknowledge receipt of your letters of the 13th June and 7th July last, and to annex, by direction of the society, copy of a report on the musters of cotton raised from exotic seed in the Dharasco district, which are referred to in the letter from the Resident of Hyderabad, dated 1st June 1860.

I have, &c.

A. H. Blechynden,
Secretary Agricultural and Horticultural Society.

I.
India.

No. 1. *Raised from Egyptian Seed.*—This, as well as the following, is mixed with a peculiar fibre, more like wool than cotton, possibly belonging to some other plant, to such an extent that any valuation in their present state is out of the question. The cotton itself is very superior to New Orleans—long, soft, and silky staple. Colour injured by being plucked in wet weather. It is a most valuable article, and if free from adulteration, would fetch as much or more than the best Egyptian.

No. 2. *Raised from acclimated Egyptian Seed.*—Also most valuable cotton, although much mixed, badly ginned, and carelessly gathered.

No. 3. *Raised from New Orleans Seed.*—Good, useful cotton, equal to ordinary New Orleans, and worth 5 *d.* to 5½ *d.* per lb. on the 2d July. It is a description much wanted in Manchester.

— No. 3. —

(No. 23.)

To the Right Honourable Sir *Charles Wood*, Bart., M.P., G.C.B., Her Majesty's Secretary of State for India.

Fort William, Foreign Department,
8 March 1861.

Sir,

IN continuation of our Letter, No. 135, dated 8th October last, we have the honour to transmit for your information, a copy of a letter from the Secretary to the Agricultural and Horticultural Society, giving cover to a report on specimens of cotton grown in the Hyderabad assigned districts, and the Shorapoor territory.

We have, &c.

Canning.
H. B. E. Frere.
C. Beadon.
R. Napier.
S. Laing.

Enclosure in No. 3.

From the Secretary to the Agricultural and Horticultural Society to the Deputy Secretary to the Government of India; dated Metcalf Hall, Calcutta, 23 February 1861.

Sir,

BY direction of the Agricultural and Horticultural Society, I have the honour to forward copy of a report, by the society's committee, on the specimens of cotton from the Hyderabad assigned districts and Shorapoor territory, referred to in your letter of the 19th November 1860.

I have, &c.

A. H. Blechynden,
Secretary, Agri. and Horticultural Society.

REPORT on Samples of Cotton from the Hyderabad District.

No. 1. A. *East Berar.*—Egyptian; grown in first-class soil, but not irrigated. Colour as good as Egyptian grown, but staple only half the length.

No. 2. A. *East Berar.*—Egyptian; grown in first-class black soil. About three quarters the length of staple of Egyptian grown. Colour also rather inferior, but nevertheless valuable cotton.

No. 3. A. *East Berar.*—Egyptian; grown in second-class black soil. About the same staple as fair New Orleans, but very irregular, and by no means nice cotton. Colour slightly tinged.

No. 4. A. *East Berar.*—Jherrie; indigenous. About equal to what is ordinarily shipped from Bombay as Surat cotton, and although like it, short stapled, still saleable to a large extent in the Liverpool market. Colour good.

No. 5. A. *East Berar.*—Indigenous; bhunny. Similar to what is shipped as Broch cotton, but from its shortness of staple only saleable in Liverpool at periods when the supply of American is deficient.

I.
India.

No. 1. B. *West Berar, Akote*.—Grown from New Orleans seeds received from Dharwar; staple not so long as middling New Orleans, but still of good serviceable quality; colour good.

No. 2. B. *West Berar*.—Raised in Dharwar from New Orleans seeds; equal in staple to the cotton grown in Dharwar from New Orleans seeds, being but little shorter than middling New Orleans; colour rather dark, but otherwise a useful description.

No. 3. B. *West Berar*.—Indigenous; bhunny. Very short staple; about half that of middling Orleans, and not suited, in ordinary times, to the Liverpool market.

No. 4. B. *Jherrie, Indigenous*.—Grown at Akote, similar to fair Surats. Strong fibre, and tolerably good colour.

No. 1. C. *Dharasee District*.—Egyptian seed; colour slightly tinged. Length of staple about three quarters Egyptian grown; valuable cotton of good strong fibre, and a little more care in picking would probably improve the colour.

No. 1. D. *Raichore Doab*.—Indigenous. Staple too short to be suitable to the Liverpool market; colour indifferent.

No. 2. D. *Raichore Doab*.—New Orleans seed; bad coloured, short stapled cotton, unsuited to the Liverpool market. Not equal to Surats.

No. 1. E. *Shorapoor District*.—New Orleans seed grown on red granite soil; staple about the length of Dharwar grown; New Orleans being rather short; colour good; useful cotton.

(No. 924.)

COPY forwarded to the Resident at Hyderabad for information, with reference to previous correspondence on the subject, ending with docket, No. 4560, dated 2d October 1860.

Fort William, Foreign Department,
2 March 1861.

By order,
C. U. Aitchison,
Under Secretary to the Government of
India.

— No. 4. —

REVENUE DESPATCH to Government of India (No. 11), dated 8 May 1861.

Para. 1. I HAVE to acknowledge the receipt of the letters from your Excellency in Council, dated the 16th of June and 8th of October, Nos. 46 and 135 of 1860, and the 8th March (No. 23), of 1861, in the foreign department, on the culture of exotic cotton in the Hyderabad assigned districts.

2. I approve of your having taken measures to circulate the information contained in these documents. The last two letters have also been communicated, by my direction, to the Manchester Cotton Supply Association.

— No. 5. —

REVENUE DESPATCH to Government of India, No. 17, dated 8 July 1861.

I HAVE to inform your Excellency in Council that Mr. Haywood, the Secretary to the Cotton Supply Association, and to the Manchester Cotton Company, is about to proceed to India, with the view of ascertaining to what parts of the country and in what manner the efforts of those bodies for increasing the supply of cotton from India, may be most effectually directed; and Her Majesty's Government have to request that you will direct the different officers under your Government to render this gentleman every facility and assistance in their power, in furtherance of the very important objects for which he has been despatched to India.

— No. 6. —

Home Department.—Revenue.—No. 4, of 1861.

To the Right Honourable Sir *Charles Wood*, Bart., G. C. B., Secretary of State
for India.

Sir,

WE have the honour to transmit for your information a copy of our resolution dated the 28th ultimo, on the subject of facilitating the supply of cotton from India to England.

We have, &c.

Canning.
H. B. E. Frere.
Cecil Beadon.
R. Napier.
S. Laing.

Fort William, 2 March 1861.

Enclosure in No. 6.

SUPPLY of INDIAN COTTON to England.

Home Department, 28 February 1861.

Resolution.—His Excellency the Governor General in Council has had under his consideration the possibility of a greatly and suddenly increased demand for Indian cotton in England, and he desires to draw the attention of each local government within the territories of which cotton-producing and cotton-exporting districts lie to those measures whereby the power of India to meet such increased demand for cotton may be augmented by help of Government.

It is to be observed—

First. That no measure which places Government in the position of the private capitalist, cultivator, or speculator, or which in any way interferes with private enterprise, can be otherwise than permanently injurious in itself and detrimental to the object in view.

Therefore all attempts to stimulate cultivation or labour by any exertion of Government authority, directly or indirectly, are out of the question.

The same objection will apply to model farms and experimental cultivation conducted by officers of Government.

Secondly. No measure will meet the object immediately in view unless it shall tell on the production of cotton during the next season, and on our means of getting that season's crop to port. This limitation will exclude from present consideration such projects as railways or canals, which, although the surest permanent means of increasing our power of export, could be made to tell to only a very limited degree on the exports of the next few seasons. Moreover, the attention of Government is already directed to promote these works to the utmost extent compatible with its financial means, and even so serious a calamity as an apprehension of a short supply of cotton in England could hardly add to the desire of the Government of India to advance them as rapidly as possible.

The question for consideration is, what can the Government do towards facilitating an immediate increase of production, and towards improving the means of bringing the produce to port.

As to Increasing Production.

The solution of questions connected with the tenure of land and with the law regarding contracts for the delivery of agricultural produce, which are now under the consideration of Government, may ultimately produce a very considerable effect on the investment of European capital in the cotton districts, but the result could not be immediate. More probably, an immediate increase of the coming crop of cotton will depend on the rapidity with which information regarding the demand and prices in England can be communicated to the producers in the cotton districts, and on the removal of all impediments to intimate and rapid communication between those who grow or collect the cotton in the interior, and the merchants who export it from the port of shipment. Directly and indirectly the Government may do something to promote these objects, especially if agents of the mercantile community of our ports will visit the cotton-producing districts, and do all that may be effected by personal intercourse to reduce the number of hands through which the produce must pass between the place of production and the place of shipment. There

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is also much valuable statistical information regarding the extent of cotton cultivation which it may be in the power of the Government officers to furnish from the public records, or to verify when obtained through other means.

The operations in the interior of the capitalists at our seaport towns may be facilitated by affording them the aid of the Government Treasury in their banking arrangements in those parts of the country where as yet no private banks have been established. The agents of respectable firms at the Presidency towns might be permitted, under certain rules, to have their bills on the Presidency cashed at the Government Treasuries, paying no more premium than the actual cost of conveying the coin. This, without entailing expense on Government, might often prove a convenience to the merchants.

As to Improving the Means of bringing the Produce to Port.

It is by facilitating existing means of communication, even though it be in a rough way, that Government can best aid the merchant promptly without exceeding its legitimate functions.

Projects for bridged and metalled roads are not practicable within the next year or 18 months; but there is a great extent of country capable of producing cotton, which is now not easily accessible to ordinary country carts, even during the fair season; and probably it is by improving the present country cart and pack bullock tracks, and thus extending the mileage over which an ordinary load of cotton may be conveyed at a rate of two-and-a-half or three miles per hour, that the export of the next season's crop may be most effectually aided.

In this view the Governor General in Council requests that each local Government will at once take measures to have the lines of traffic between their cotton-producing districts and the port of shipment, whether on sea or river, examined and reported on by a competent officer. This officer should note, in general terms, the extent and probable cost of any improvements required to bring the existing country cart tracks up to the standard just described. For the execution of the improvements, the Government should select the nearest executive authority as the one to be charged with the work; and where there is no such authority at hand, a special agency should be employed for the purpose; the only conditions being that the work to be undertaken should be capable of immediate execution.

For such purposes officers of high scientific attainments as engineers are not needed. An officer of judgment and energy, with a capacity for rapidly estimating the probable cost of the very simple works required, will be almost as useful as an accomplished engineer. In the event of any expenditure being required, which it is beyond the power of the local Government to sanction, application should be made to the Government of India for a special grant.

It would be very desirable that the officers employed to examine and report should be accompanied each by a member of whatever commercial community may be most interested in the produce of the district, who might observe and report on any obstacles other than physical which may appear to impede the cotton trade. The combined report of two such gentlemen, if well selected, would furnish information of considerable practical value regarding any province in which they might be employed.

The Government of India will be prepared to bear the charge of the travelling expenses of any gentlemen who might be deputed by commercial communities to accompany its officers.

It is not intended to discourage, on the part of those who may be engaged as above described, suggestions of any extensive or costly work which may promise to subserve, in a larger and more permanent manner, the great object in view, even though it may not admit of speedy execution, or be within the means of Government to sanction immediately.

Ordered, that a copy of this resolution be communicated to the Governments of Madras and Bombay; to the Lieutenant Governors of Bengal, the North Western Provinces, and the Punjab; to the Commissioners of Pegu, Nagpore, and Mysore; and to the Resident at Hyderabad.

Ordered further, that the local Governments and administrations be requested to communicate a copy of the resolution to the commercial communities at their chief towns, through the Chambers of Commerce, or otherwise; with an invitation of any suggestions which may occur to those practically interested, and which may aid more effectually to attain the great national object in view.

W. Grey,
Secretary to the Government of India.

— No. 7. —

EXTRACT, Bengal Revenue Consultation.—March 1861.

From *H. Bell*, Esq., Under Secretary to the Government of Bengal, to the Secretary to the Board of Revenue, Lower Provinces, No. 256 A., dated 6 March 1861.

I AM directed by the Lieutenant Governor to forward to you 10 printed copies of a resolution recorded on the 28th ultimo by the Governor General in Council, regarding the supply of Indian cotton to England; and to request that the Board will have the goodness to circulate the document to Commissioners of Revenue, and invite an expression of their opinion on the subject. The Commissioners of those divisions where cotton is now grown at all, and where there is a possibility of increasing the growth thereof, should be specially requested to submit an early report of their views. On the receipt of the commissioners' replies, the Board are requested to lose no time in favouring the Lieutenant Governor with their own opinion.

2. The Board's attention is particularly requested to the Purneah and Darjeeling Morungs to Assam, and to some of the districts in Behar and Chota Nagpore where cotton can be grown.

(No. 257 A.)

COPY of the above letter and of the Governor General's Resolution, forwarded to the Public Works Department of this office for information, and for consideration of the measures to be taken for improving the internal road communication in the manner described by his Excellency.

From *H. Bell*, Esq., Under Secretary to the Government of Bengal, to the Secretary to the Bengal Chamber of Commerce, No. 258 A., dated 6 March 1861.

I AM directed to forward to you the accompanying printed copy of a resolution recorded by the Governor General in Council on the 28th ultimo, regarding the supply of Indian cotton to England; and to request that the Chamber of Commerce will favour the Lieutenant Governor with an expression of their opinion on the subject, and with any suggestions they may have to offer for giving a ready effect to the measures contemplated.

2. The local officers, where cotton is or can be grown, have been consulted on this subject.

From *H. W. J. Wood*, Esq., Secretary to the Bengal Chamber of Commerce; to *H. Bell*, Esq., Under Secretary to the Government of Bengal, dated 21 March 1861.

I AM directed by the Committee of the Chamber of Commerce to acknowledge the receipt of your letter No. 258 A., of the 6th instant, with its enclosure, on the subject of a supply of Indian cotton for England.

With reference to the suggestion that it would be desirable that officers who may be employed to examine and report on measures in connexion with the cotton trade should be accompanied by a member of the commercial community, I am instructed to state that Mr. Paterson Saunders, senior, has submitted to the Chamber the offer of his services for employment in the duty proposed by his Excellency the Governor General in Council; and that the Committee are of opinion that Mr. Saunders is well qualified for such a mission, and that his practical knowledge of the cotton trade, and the country where it is produced, together with a large Indian experience, will enable him to render much valuable aid in attaining the object which the Government have in view.

— No. 8. —

I.
India.

EXTRACT, India Revenue Consultations.—April 1861.

From *G. Couper*, Esq., Secretary to the Government of the North Western Provinces, to *W. Grey*, Esq., Secretary to the Government of India, No. 507 A., dated Nynee Tal, 29 March 1861.

I AM desired by the Honourable the Lieutenant Governor to acknowledge the receipt of your letter, No. 443, dated the 28th ultimo, giving cover to a resolution of his Excellency the Governor General in Council, “regarding the supply of Indian cotton to England,” and the means which the local governments may use to facilitate the conveyance of the produce to the seaboard.

Mirzapore,
Ghazepore,
Benares,
Goruckpore,
Allahabad,
Banda,
Cawnpore,
Agra,
Muttra,
Etawah,
Furruckabad,
Mynpoorie,

Bareilly,
Moradabad,
Shahjehanpore,
Budaon,
Meerut,
Allypore,
Hameerpore,
Jhansie,
Jaloun,
Jubbulpore,
Saugor and
Hoshungabad.

2. The Resolution of his Excellency will be translated into Ordo and Hindee, and published in the “*Diglot Gazettes*,” which are issued from the government press at Allahabad, and separate copies will be forwarded to the magistrates of the districts named in the margin, for distribution among the commercial communities of the chief towns within their limits.

3. The accountant of these provinces will of course act upon any instructions which he may receive from the Government of India, in the financial department, in respect of the cashing of the presidency bills at the Government treasuries with a view of facilitating the operations, in the interior, of capitalists at the seaport towns.

4. It is chiefly on the subject of the direction, that “each local government shall take measures to have the lines of traffic between the cotton producing districts and the port of shipment, whether on sea or river, examined and reported on by a competent officer,” that I am now desired to address you.

4 A. In these provinces cotton is for the most part a rain-crop, those lands only which are within reach of canal cultivation being sown as early as April, and the export of the produce goes on during the cold weather, so that this reference may be considered and replied to in ample time to admit of due attention being given to any instructions with which the Lieutenant Governor may be favoured.

5. I am to submit, for the consideration of the Viceroy and Governor General in Council, that it does not appear necessary in these provinces to depute an officer for the purpose of examining and reporting on the lines of traffic between the cotton producing districts and the ports of shipment.

6. His Excellency is aware that every district in the North Western Provinces has a Road and Ferry Fund Committee, whose special duty it is, under the general direction of the Divisional Commissioner, to construct and maintain in repair the lines of internal communication, which the commerce of the country requires. Their operations are annually reported to the Government, which is thus kept fully informed of the state of the interior roads and of the quarters in which communications are defective. The same information is possessed, in a greater degree, by the commissioner of each division; and it therefore appears to the Lieutenant Governor doubtful whether there could be either utility or expediency in employing a special officer in the manner suggested; while the requisite information can be obtained from the local officers, and any measures that may be immediately necessary, can be at once carried out with the agency at their disposal, and if necessary, in special cases, with some small pecuniary aid from the Government.

7. But, in point of fact, the Lieutenant Governor believes that (with two or three exceptions) all the cotton producing districts of these Provinces are furnished with such roads of access to the great lines of traffic as will fully answer the conditions of the resolution, namely, that “an ordinary load of cotton may be conveyed at a rate of 2½ or 3 miles per hour” over them.

8. The main lines by which cotton finds its way from these provinces to the eastward, are: 1st, the River Ganges; 2d, the River Jumna; 3d, the Grand Trunk Road; 4th, the Great Deccan Road from Jubbulpore to Mirzapore.

9. Although

9. Although cotton is grown more or less throughout these Provinces, the principal producing districts are believed to be those belonging to the Jhansie and Jubbulpore divisions, and Bundelkhund, the districts of the Agra division, and, though in less degree, of the Meerut division.

10. As regards the districts of the Jhansie division, they have access to Calpee, which is a great emporium of the cotton trade, by the military road which passes from that place through the middle of the districts of Jhansie, Jaloun, and Chundeyree to Saugor, and thence through Dumoh to Jubbulpore. The lower part of this road, where it passes over the Ghât, separating the Nerbudda territories from the Jhansie district, may possibly call for special repairs with a view to the objects contemplated in the resolution; but these can be effected, if indeed they should be necessary, by the agency of the local committee under the instructions which, as will be presently mentioned, the Lieutenant Governor proposes to issue. Throughout these districts there are interior roads falling into the military roads, and these receive annual repairs at the cost of the Road and Ferry Fund Committees.

11. Again there is a fair communication from all the districts of the Jubbulpore division, north of the Nerbudda, with the Great Deccan Road, terminating at Mirzapore; and it is believed that, except in the rainy season, there is no difficulty in the export of cotton or other produce to the eastward. And the soil is such that no repairs, and no attention that could be given to unmetalled roads in these parts, could render them passable for carts in the rainy season. Much of the cotton produced in the districts of this division seeks a market at Bombay, which has been in a measure opened up by the Great Deccan Road, and the rest of it comes for the most part to Mirzapore, as above indicated.

12. It is in this, the Jubbulpore division, that the exceptions alluded to in the 7th paragraph of this letter exist. In the three districts south of the Nerbudda, owing to the nature of the soil, the extensive jungle, and the hilly character of the country, the roads, if they deserve the name, are exceedingly bad. In regard to these, the commissioner of the Jubbulpore Division will be specially addressed; and, as the local funds are very small, special assistance will, if required, be given.

13. Over and above Jhansie, Jaloun and Chundeyree, which have been already noticed, there are but two districts of Bundelkhund under this Government, Banda and Humeerpoor. Both of them have abundant means of internal communication, which, as already stated, are annually repaired and kept in efficient order by the Road and Ferry Fund Committees; and they are connected, the first by a metalled road with the railway, and the Grand Trunk Road also at Futtehpore, while the second is connected with Calpee by a good road, and with the railway, and the Grand Trunk Road also, at Cawnpore by a road on which the sum of 18,000 rupees was expended last year by the Road and Ferry Fund Committees. An assignment of 400 rupees has been made for its completion in the current year.

14. In the districts of the Agra Division, there is no want of communication of the nature desired. Muttra, which is the chief cotton producing district, is connected with Agra and Hattrass and Allygurh by metalled roads, and has great facilities for exporting its produce in all directions, possessing, as it does, good internal roads along the lines of local traffic. Agra is equally well provided with internal roads, and both the Jumna and the Grand Trunk Road afford the best means of conveyance to the eastward from that city. The same may be said both of Etawah and Mynpoorie, so far as internal lines of communication are concerned, while Etawah itself is connected with the branch of the Grand Trunk Road at Mynpoorie by a metalled road, and will shortly have access to Bewur on the Grand Trunk Road, by a direct line which is in course of construction, with bridges over all the intervening streams. Etah lies on the Grand Trunk Road itself, which is approached from every quarter by roads, over which an ordinary load of cotton can travel at a rate of two and a half or three miles per hour. Lastly, the district of Furruckabad has the means of conveying its cotton or other produce to the eastward, either by the Ganges, or by a metalled road which falls into the Grand Trunk Road at Goorsehaingunge. This district

I.
India.

has a network of interior roads connecting every part of it with the city of Furruckabad.

15. Further, as regards the districts of the Meerut division, and it may be said generally as regards the districts appertaining to the divisions of the Allahabad and Benares, the Lieutenant Governor is able to assert confidently that there is no part of them which does not possess means of easy access either to the great rivers, or the Grand Trunk Road, or from which an ordinary load of cotton "may not be conveyed at a rate of two and a half or three miles per hour." Even the cross traffic is not impeded, as the Lieutenant Governor has lately had the opportunity of seeing. Cotton is carried in large quantities from Calpee, direct through the Cawnpore, Futtehpore, and Allahabad districts to Jounpore by a metalled road, and thence by a raised and bridged unmetalled road to the mart of Shahgunge in that district, where it is exchanged for sugar, and much of the cotton which used formerly to be placed in boats at Mirzapoor is now carried by land to Ghazeepore, where it is shipped. This diversion of the trade from Mirzapoor has been caused, it is believed, by the shallowness, in recent years, of the river at Mirzapoor, and by reason of certain exactions in the way of bazaar fees, &c., which are found to prevail in that city. But whatever may be the cause, the fact shows that there are not wanting adequate means of conveying cotton towards the seaboard.

16. The Province of Rohilcund is the only one in the North Western Provinces proper, which is deficient in the means of communication with the river Ganges, or with the Grand Trunk Road, and this is owing partly to its isolated position, partly to the nature of the soil, which is not suitable for roads bearing a heavy traffic, and partly to the great scarcity of metal in most parts of the Province. But even here there is a metalled road from Moradabad to the Ganges opposite Gorbhoomkhesur, and a bridged unmetalled road (certainly fulfilling the conditions of the resolution) to the Ganges at Anoopshukur, which is connected by a bridged and metalled road with the Grand Trunk Road at Koel. Budaon again has a metalled road through Ooghenee to the Kuchla Ghât on the Ganges, being connected on the other side by a metalled road with Bareilly. The internal communications are certainly not good, though they are travelling, but they are nearly all bridged, and they can hardly be improved without the great expense of metalling (which is not contemplated in the Resolution) except after the rains, when the traffic opens. The important roads from Shahjehanpore, and from Bareilly to Furruckabad, are not in a very satisfactory state, although the Lieutenant Governor knows that much attention has been given to them.

17. Having regard to the facts above stated, and to the existence in the Road and Ferry Fund Committees, of an effective agency for repairing and improving, and if necessary, constructing connecting lines of interior road, to aid the export of next season's cotton crop, the Lieutenant Governor believes that it will be considered unnecessary by the Viceroy and Governor General in Council, that a special officer should be deputed to examine and report on the interior roads, which connect the different parts of these Provinces with the great lines of traffic mentioned in the 8th paragraph of this letter. He is persuaded that no such special officer could, within any reasonable period, acquire so full an acquaintance with local wants as the division commissioners and the local officers, who are constantly moving about their respective districts, already possess; and he is satisfied that the agency of the Road and Ferry Fund Committees is quite equal to the execution of any improvements that may be found necessary.

18. Under all these circumstances, the Lieutenant Governor has thought it the better course to call the attention of the Commissioners of the Divisions, and through them, of the Road and Ferry Fund Committees, to the resolution of the Governor General in Council, dated the 28th February last, and to require them to take the necessary measures, at the fitting time, for repairing and improving all those lines of interior communication which connect the districts of their divisions with the great rivers, the Grand Trunk Road, or the Great Deccan Road, so as to facilitate the export of next season's cotton in the largest possible degree. The local officers will be desired to communicate freely with merchants, whether European or native, who may be engaged in the cotton trade,

trade, and to bring to the notice of this Government any useful projects they may suggest, which may promise to subserve the object in view. A copy of the instructions which will be issued under this date, is enclosed, for the information of his Excellency the Viceroy in Council.

I.
India.

19. Referring now to the last paragraph of the resolution, the Lieutenant Governor desires to offer one or two suggestions in regard to works which are of too extensive and costly a nature to be undertaken by the local committees :

1st. That the direct road from Furrackabad *viâ* Shahjehanpore to Bareilly and Moradabad, should be at once declared to be an Imperial road, and be transferred to the charge of the Department of Public Works, in order that it may be metalled at the cost of the State. There is no road which will subserve the interests of the local traffic more largely or more permanently than this, or which will more directly encourage the production of cotton in Rohilcund, which now grows it to a very limited extent.

2d. That the military road from Saugor *viâ* Lullutpore, Jhansie and Oraee to Calpee, shall be similarly taken over by the Government, as an Imperial road, and metalled with as little delay as possible. This is the road alluded to in paragraph 10, and such portions of it as pass through each district are under the care of the respective Road and Ferry Fund Committees, whose resources are not adequate to its requirements. All that they can afford to do is to keep the road in fair order as a bridged unmetalled road, notwithstanding its great importance at all times, and its special importance relatively to the subject of the resolution of the Governor General in Council.

3d. That means should be taken to improve and facilitate the navigation of the Ganges Canal. The rapidity of the current is one great impediment, and the lowness of the arches of the bridges, under which a heavily laden boat cannot pass, is another. The Lieutenant Governor does not pretend to say how these difficulties may best be removed, or what expenditure may be required ; but he has heard it suggested, that a navigating channel might be excavated alongside of the present canal in such a way that the water should be held up in it of sufficient depth to admit of its being navigated by all boats of ordinary burthen, bridges of an economical though substantial construction, and of a form suitable for the purpose, being erected.

20. The Lieutenant Governor trusts that the course which he has followed in this matter may not be disapproved.

From *G. Couper*, Esq., Secretary to the Government of the North Western Provinces, to the Commissioners of Meerut, Rohilcund, Agra, Allahabad, Benares, Goruckpore, Jhansie, Jubbulpore, and Ajmere, No. 509 A, dated Nynee Tal, 29 March 1861.

I AM desired by the Honourable the Lieutenant Governor to direct your attention, and through you the attention of the Road and Ferry Fund Committees of your division, to the resolution of the Governor General in Council, dated the 28th February last, and published in the supplement to the Calcutta Government Gazette of the 2d March.

2. Adverting to the knowledge of local requirements which is possessed by yourself, and by the district officers of your division, and to the existence in the Road and Ferry Fund Committees of an effective agency for the improvement and repair of internal lines of traffic, as well as for the construction of new lines, wherever such may be required, the Lieutenant Governor has not thought it necessary to depute a special officer to examine and report on the roads which connect the several districts of these Provinces with the two great rivers, or with the Grand Trunk Road or the Great Deccan Road ; his Honour believes that no such officer could, within any reasonable period, acquire such a knowledge of local wants as you and your district officers already possess, and that no

I.
India.

agency is better suited to the execution of the improvements that may be needed, than that of the Road and Ferry Fund Committees.

3. The object of his Excellency the Viceroy in Council is, that existing means of communication between the cotton-producing districts and the port of shipment should be so improved, or at the least put into such a state of repair, as to facilitate the conveyance of the next season's cotton produce toward the seaboard.

4. It is believed that there are very few districts which do not possess interior roads, connecting them with the Jumna or Ganges, or both, and with the Grand Trunk Road, or (in the Jubbulpore division) with the Great Deccan Road, having one of its termini at Mirzapore. And the Lieutenant Governor is under the impression that all these interior lines of traffic are of such a nature and ordinarily in such condition that an ordinary load of cotton may be conveyed over them at all times (except perhaps during the rainy season) at a rate of $2\frac{1}{2}$ or three miles per hour. And it is not until after the cessation of the rainy season that the export of cotton from these provinces commences.

5. What is primarily required, then, under the Resolution of the Governor General in Council is, that as soon after the next rains as possible, all these interior lines of communication should be thoroughly repaired, and so improved where necessary as to facilitate in the largest possible degree the exportation of the next season's cotton crop. And, secondarily, it will be your duty to consider, in concert with the Road and Ferry Fund Committees, whether any new lines of communication with great outlets from these provinces are needed to further the object contemplated in the Resolution, and in that case to direct the construction of them without delay, so that they shall be in travelling condition as soon as the exports of next season's produce shall commence.

For Commissioner
Jubbulpore only.

5 A. It is believed that the districts of your division north of the Nerbudda have fair means of access to the Great Deccan Road, and their produce (cotton), in part to Bombay and in part to Mirzapoor, where it finds its way to the seaboard. These connecting lines must be repaired and improved so far as practicable as directed in the preceding paragraph. But the Lieutenant Governor is under the impression that the districts on the south of the Nerbudda are very ill-provided with the means of communication, and that, in order to fulfil the requirements of the Resolution, some special measures will be indispensable. You will be good enough to consider, in concert with the Road and Ferry Fund Committees of the districts in question, how the object contemplated by the Government of India may best be subserved, and take steps without delay for the execution of such works as may appear the most suitable, always bearing in mind that "projects for bridged and metalled roads are not practicable within the next year or 18 months," and that what is required is to improve the present country cart and pack bullock trains, and thus extend the mileage over which an ordinary load of cotton may be conveyed at a rate of $2\frac{1}{2}$ or three miles per hour."

To Commissioner
Rohilcund only.

5 B. The lines of traffic in your division which will specially call for attention are, 1st. Those which connect Rohilcund, by the way of Kuchla Ghât, and Anoopshahur with the Doab, and those which lead direct from Budoan, Shahjehanpore, and Bareilly to Furruckabad. The nature of the soil makes the maintenance of these in efficient order a great difficulty, which it is beyond the means of the local committees entirely to overcome. The Lieutenant Governor has therefore asked the Government of India at once to take over the road from Furruckabad, through Shahjehanpore, to Bareilly and Moradabad, as an imperial line, to be metalled at the cost of the State by the Department of Public Works. But the local committee should nevertheless make it their duty, as soon after the cessation of the rains as possible, to put in the most efficient order practicable the roads connecting their districts with Furruckabad.

6. It is believed that the funds at the command of the local committees will suffice for the execution of such repairs and improvements as are indicated in the Resolution of the Governor General in Council; but if in any case it can be shown that the assistance of the Government is needed, you will report accordingly,

accordingly, giving a brief account of the work proposed and of its object and a rough estimate of its cost and of the amount which the Government may fairly contribute.

7. You will desire the district officers of your division (being *ex-officio* presidents of the Road and Ferry Fund Committees) to communicate freely with merchants interested in the cotton trade, whether European or native, as to the means by which the objects of the Resolution may best be subserved, and to bring under the notice of the Government any suggestions that may be offered for the removal of "any obstacle other than physical which may appear to impede the cotton trade," or for the execution of works which, though too extensive and costly to be undertaken at the present time, may promise to aid the development of the cotton trade, by facilitating the conveyance of the produce of these Provinces to the seaboard.

From *A. M. Monteath*, Esq., Under Secretary to the Government of India, to *Sir George Couper*, Bart. C.B., Secretary to the Government of the North Western Provinces, No. 817, dated 22 April 1861.

I AM directed to acknowledge the receipt of your letter No. 507 A., dated the 29th ultimo, reporting the measures which have been and which are about to be taken to facilitate the conveyance of cotton from the interior of the North Western Provinces to the seaboard for exportation, and in reply to state that the Governor General in Council fully agrees in the views expressed by the Honourable the Lieutenant Governor in paragraphs 1 to 18 of your letter, and approves of the instructions that have been issued to the local commissioners.

2. The proposals contained in paragraph 19 of your letter, viz., that the road from Furruckabad to Bareilly, and that from Calpee to Saugor, should be taken over as imperial roads and be metalled at once, and that means should be taken to improve and facilitate the navigation of the Ganges Canal, will be considered in the Public Works Department.

—No. 9.—

EXTRACT, India Revenue Consultations, May 1861.

From *W. Grey*, Esq., Secretary to the Government of India, to *Sir George Couper*, Bart. C.B., Secretary to the Government of the North Western Provinces, No. 961, dated the 11 May 1861.

WITH reference to the Resolution of the Governor General in Council, dated the 28th February, on the subject of the supply of Indian cotton to England, I am directed to forward to you the accompanying copy of a correspondence* with the Government of Bengal, regarding the deputation of Mr. P. Saunders to those provinces within the Bengal Lieutenant Governorship, where there is a likelihood of cotton being produced, and to state for the information of the Honourable the Lieutenant Governor of the North Western Provinces, that Mr. Saunders having expressed † a desire to visit also the cotton-growing districts, and the principal cotton marts of the Upper Provinces, the Governor General in Council has given his assent to his doing so.

2. I am desired to request that his Honour will be good enough to instruct the Commissioners of Divisions to afford Mr. Saunders all the information and assistance within their power. Any communication which Mr. Saunders may wish to make direct to Government in regard to the districts of the North West, will be addressed of course to the Government of the North Western Provinces.

* From Government of Bengal, No. 373 A., dated 26 March 1861, with enclosure.

To ditto - - - ditto - - - No. 700, dated 13 April 1861.

† An extract of a letter from Mr. Saunders on the subject is enclosed.

I.
India.

EXTRACT of a Letter from Mr. *P. Saunders*, dated 26 April 1861.

When I wrote I had not observed that the Resolution of the Governor General in Council, dated 28th February 1861, had been communicated to the Lieutenant Governor of the North Western Provinces; I was writing under the impression that the party appointed here would have the range of the whole Bengal Presidency for his mission.

In this case my views were the following :—

In the Resolution of the Governor General it is stated that “no measure will meet the object immediately in view, unless it shall tell on the production of cotton during the next season, and on our means of getting that season’s crop to port.” Again “the question for consideration is, what can the Government do towards facilitating an immediate increase of production,” &c. Again “it is desirable that those employed to examine and report should observe and report on any obstacles other than physical which may appear to impede the cotton trade.”

To attain these objects it appeared to me that the districts first to be visited should be the old cotton growing districts of the North Western Provinces. The appointee should visit the old cotton marts of Mirzapore, Calpee, Futteghurh, Hatras, &c.; he should travel the whole length of the Ganges Canal. A vast cotton trade once existed in these districts, and can, no doubt, again be brought into existence. The causes that impede the trade, that have led to its decay, and much valuable information, could be obtained by the combined commission of local officers and mercantile appointees. The presence of commissioners in the cotton districts, their intercourse with talookdars spreading among them a knowledge of the probable great demand for cotton, might give a great impulse to production, &c. The appointee might then visit Bundelkund, Nursingpore, and afterwards extend his travels to Eastern Bengal.

From *W. Grey*, Esq., Secretary to the Government of India, to *P. Saunders*, Esq., No. 951, dated 11 May 1861.

WITH reference to your letter, of the 26th ultimo, to Mr. FitzWilliam, and to the intimation conveyed to you through that gentleman in regard to your wish to proceed to the North-Western Provinces, I am directed to forward for your information the accompanying copy of a letter addressed to the Government of those Provinces.

From Sir *George Couper*, Bart., Secretary to the Government of the North-Western Provinces, to *W. Grey*, Esq., Secretary to the Government of India, No. 702 A., dated Nynee Tal, 19 April 1861.

WITH reference to my letter, No. 507A., dated the 29th ultimo, forwarding copies of the orders issued by this Government with a view to facilitate the export of cotton from the districts of these Provinces towards the seaboard, I am directed to transmit for such consideration and notice as the suggestion conveyed in the last two paragraphs may be thought by his Excellency the Governor-General in Council to deserve, the accompanying copy of a communication* on the subject from the Commissioner of the Allahabad Division.

* No. 87, dated 8 April 1861.

From *C. B. Thornhill*, Esq., Commissioner of the Allahabad Division, to Sir *George Couper*, Bart., Secretary to the Government of the North-Western Provinces, No. 87, dated 8 April 1861.

I HAVE the honour to acknowledge the receipt of your circular, No. 509 A., of the 29th March, having reference to the improvement of the means of transit for cotton.

2. In this division, Bundelkund is the only tract of country from which cotton is largely exported, and the chief routes of exit are Calpee, Chilla, Tara, and Rajapore, all being situated upon the river Jumna.

3. The cotton producing soil is the marl or black clay, it is remarkable for its richness, and for the property it possesses of imbibing moisture very readily during the periodical rains, under the influence of which it becomes so soft and yielding, that it refuses to support even the weight of the human body, unless aided by a contrivance similar in principle to the snow shoe.

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4. The depth to which this homogenous clay extends is in places very great.
5. In sinking wells the stratum is not unfrequently found to be sixty feet in thickness.
6. These peculiarities render the construction of permanent roads so exceedingly difficult and expensive, as to render such a measure almost impracticable.
7. But even if it were possible to make such roads, they would be useless during the rainy season from the impossibility of conveying the cotton from the villages to the road.
8. The result of this characteristic of the ground is, that the use of wheel carts is altogether suspended from the time the rain first falls until the ground hardens again sufficiently to bear the weight of a loaded cart.
9. In practice, therefore, the carrying trade in cotton is only in operation from November till June.
10. In the Banda District, there are lines of roads well defined, and straight to all the ferries on the Jumna, by which cotton is exported.
11. As soon as the rainy season terminates, funds are annually placed at the disposal of each Tehsildar, who at once repairs every road in his jurisdiction, and removes every obstacle to the free transit of carts from the cotton grounds to the Jumna.
12. On arriving at the Jumna, the trader has the option of forwarding his goods by boat, or of continuing his journey by land to the Grand Trunk road.
13. The only obstacles between which and the Jumna are the rivers which are used as canal escapes; one of these, the Pandoo, on the road between Calpee and Cawnpore, is being bridged by the local committee; the others, namely, the Rind and the Seyngoor on the same road, and the Pandoo, Rind and Noan, on the Humeerpore and Cawnpore line, would require an outlay of at least 30,000 rupees on an average, to provide permanent masonry bridges, which is, of course, far beyond the means at the disposal of the local committee.
14. The obstacles presented by these rivers during the dry season, are however by no means of a formidable character, and the inconvenience entailed upon the traffic is limited to the delay of crossing in a ferry boat.
15. The physical condition of the cotton-growing country being of the nature above described, every facility for its exportation has already been provided.
16. Merchants will only export during eight months in the year, and during those eight months the roads permit the progress of the carts at the most rapid rate of a bullock's movements in draught.
17. But there is one point which appears, for all I have been able to ascertain, to be of greater importance than the provision of means of transport, and that is the separation of the good and clean from the worthless and inferior cotton in the field. A native looks only to quantity, he sells by weight, and not by quality, and he therefore employs every available means of increasing the former at the expense of the latter.
18. I feel convinced that the appointment of agents to purchase cotton from the producer at advanced rates for clean samples will do more for the improvement and extension of the trade than the mere attempt to increase the rapidity of the transit of very inferior articles.

— No. 10. —

REVENUE DESPATCH to Government of India, No. 20, dated 25 July 1861.

Para. 1. WITH reference to the resolution of your Government, forwarded with your Excellency's letter of the 2d March last (No. 4), I have to express to you the satisfaction of Her Majesty's Government that the important question of expediting and facilitating an increased supply of cotton from India to this country, so as to make up for any apprehended deficiency in the imports from America, has met with your especial attention.

2. You have correctly stated that "no measure which places Government in the position of the private capitalist, cultivator, or speculator, or which in any way interferes with private enterprise, can be otherwise than permanently injurious in itself and detrimental to the object in view."

3. The dissemination of information respecting the demand and prices in England among the producers in the cotton districts, and the execution of such improvements as may be readily practicable in the lines of transit, by which the cotton reaches the place of shipment, whether on sea or river, are among the best means by which any immediate effect is likely to be produced. It is understood that facilities have habitually been afforded to merchants in a manner similar to that to which you refer, by granting to them bills at the Pre-

I.
India.

sidency towns, payable at such mofussil treasuries as might contain balances in excess of the local wants. These advantages will of course apply not only to those who may be engaged in cotton transactions, but, as heretofore, to all persons engaged in transactions that require such accommodation. It can of course only be afforded when it is compatible with the requirements of the public service.

4. In the course of the inquiries which you have directed to be made for the purpose of carrying your instructions into effect, it is probable that much valuable information will be obtained, which may hereafter lead to permanent and beneficial results in the advancement of the production and supply in a marketable condition of this article of commerce, important in the highest degree both to this country and to India.

5. I do not desire to interfere with any arrangement which may have been already made under the terms of your resolution; but I think it right to intimate to you that the proposal to defray out of the revenues of India the travelling or other expenses of gentlemen deputed by commercial communities, is, in my opinion, objectionable, and ought not to be repeated.

— No. 11. —

EXTRACT Public Works Letter from India, 1 June (No. 36), 1861.

2. But there is one point to which at this time we desire to draw particular attention. It will be seen that the produce of cotton on these lands is estimated at 115,640 maunds, or upwards of nine millions of pounds. The half of this would be no contemptible contribution from one very limited tract to English cotton supply. But the only practical way of developing a trade of the kind appears to us to be, that those most deeply interested in the supply should establish an agency for the purchase of cotton, and set up screws for packing it before de-patch to the seaport. We are not prepared to say absolutely that Delhi would be a suitable place for such an experiment; but, till such experiments are made (and some money must of course be risked upon them), we can scarcely think that a real endeavour has been made to develope that Indian cotton supply, in which so deep an interest is expressed by a large and influential body in England.

3. We, therefore, suggest that the subject be brought prominently before the Manchester Chamber of Commerce, and other bodies most interested in the supply of cotton.

— No. 12. —

EXTRACT Public Works Despatch to India, dated 16 August (No. 43), 1861.

6. THE information contained in No. 36, and its enclosures, regarding cotton grown on land irrigated by the Western Jumna Canals, has been communicated to the Manchester Cotton Supply Association.

— No. 13. —

Public Works Department.—Public.—No. 41 of 1861.

COMMUNICATIONS.—ROADS.

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir,

Fort William, 27 June 1861.

WE have the honour to forward for the information of Her Majesty's Government, copy of a recent communication from the Commissioner of Nagpoor, with the chief reports which it enclosed, on the subject of the cultivation of cotton in the districts of that Province, and the construction of roads to facilitate its transport to the ports of shipment.

We have, &c.

*Canning.**H. B. E. Frere.**R. Napier.**Documents to accompany.*

Letter from Commissioner of Nagpoor, No. 69, dated 4th June 1861.

Letter from Deputy Commissioner of Nagpoor to Commissioner, No. 296, dated 20th September 1860.

Letter from Superintendent of Survey and Settlement, Nagpoor, to Deputy Commissioner, No. 91, dated 3d April 1861.

Statement showing prices of cotton at Bombay.

Public Works Department, No. 2152, dated 21st June 1861.

Map.

Enclosure 1, in No. 13.

No. 69, dated 4th June 1861.

From Major *E. K. Elliott*, Commissioner of Nagpoor, to Secretary to Government of India, Public Works Department.

WITH reference to the papers noted on the margin, respecting the supply of Indian cotton to England, I have the honour to transmit for the perusal of His Excellency the Governor General of India in Council a copy of the correspondence quoted in the annexed list, wherein will be found some information of a miscellaneous character, bearing on the subject now attracting so much attention. I have also to observe as follows, for the consideration and orders of his Excellency in Council.

2. A large quantity of cotton is grown in this province, and there is little doubt but that this quantity will steadily increase. Hitherto, the trade may have been retarded in consequence of the difficulties of transport from bad roads, or rather no roads at all, and from the transit duties of the old native government, continued, until very lately, under our rule.

These duties have now ceased to exist, whilst measures are in active progress for the improvement of our roads. The principal outlets for the cotton from this Province generally known and most in use have been by Jubbulpoor to Mirzapoor and by Nachengaon (near the Wurdah River) or Oomraotee to Bombay.

* One hundred miles of the great Deccan Road is under construction as a 1st class Imperial road, and when completed, the transport of cotton will be facilitated in either direction, but the feeders to this and the southern line from Nagpoor towards Hyderabad,† with a branch to the Sudder Station of Chanda, which runs through a cotton-producing country the whole way, should also be taken in hand and improved.

3. Of the five districts into which this province is at present divided, two, Chindwarra and Bhundarra, produce little or no cotton. The principal cotton-growing districts are Nagpoor, Chanda,

Resolution in the Home Department, dated 23rd February 1861.

Secretary to Government in the Home Department.

To the Commissioner of Nagpoor, No. 446, dated 23rd February 1861.

Extract from the Proceedings of the Right Hon. the Governor General of India in Council in the Public Works Department, under date the 1st April 1861.

Received on the 10th idem, under docket No. 980 A.

* The Great Deccan Road runs from Mirzapoor on the Ganges, through Jubbulpoor, Nagpoor and Jaulnah to Bombay. One hundred miles run through this territory.

† The boundary of the Province in this direction is at Patara, on the Wurda. The branch to Chanda leaves the line at Wurrorab, the head quarters of a Theseeldaree Station, about seven miles short of the river.

I.
India.

Chanda, and Raepoor, in the order in which they are named. The quantity produced may be roughly estimated at 20,000,000lbs., * of which about 9,000,000 lbs. are, it is said, from the Nagpoor District. It is the Nagpoor and Chanda cotton alone which finds its way to Mirzapoor and Bombay, that from Raepoor, which is stated to be of a coarser description, going to the Eastern Coast, or being consumed within the territory, or before it reaches the sea.

4. In the sketch map attached to Colonel Maxwell's letter, and accompanying the correspondence, the main lines of communication through the province are shown. The most important, as affording the means of transport to the ports of shipment are, as regards cotton, the Great Deccan and the Southern lines. On a rough calculation, the mileage of the feeders to these lines requiring to be opened out and improved in the Nagpoor and Chanda districts, may be estimated to extend over 300 miles, and with a little exertion and the requisite aid in money, much may be effected during the ensuing working season.

5. After the lapse of the province in 1853-54, a one per cent. road fund was established in each district, from which very little has hitherto been expended, so that the accumulations on the past years now amount to something considerable.†

A portion of these accumulations may, I think, very properly be expended in opening out these district lines; but without the aid of Government, no material improvement can be effected. A reference to the letter from the chief engineer, accompanying this report, will show that in his opinion a sum of not less than 200 rupees per mile would be needed to make these lines passable, or to put them on the footing of fair-weather roads. I would go further than this, and suggest an expenditure of 250 rupees a mile, a sum which has, I am told, been allowed on other occasions for making fair-weather roads. For 300 miles an outlay to this extent would require funds amounting to 75,000 rupees, out of which sum the district road funds might fairly contribute one-third, or 25,000 rupees. With the number of projects now on its hands, the Department of Public Works could not possibly undertake this additional task unaided, and I would propose to obtain the co-operation of the Committees for local improvement, already formed in each district. To add to the efficiency of these Committees, and to forward the efforts of the district officers, some direct executive assistance might with advantage be provided, the present agency of the Department of Public Works not being strong enough to afford more than its professional advice and instructions; I would urge, therefore, that, as recommended by Colonel Maxwell, a qualified native surveyor should be appointed to each district, to be placed under the orders of the Local Committees, their salaries being defrayed from the road or other local funds.

6. The foregoing project has reference solely to the Nagpoor and Chanda Districts. In Raepoor, the opening up of the communications with the neighbouring territories would also, I feel assured, be attended with the greatest benefit to the public at large, as well as to the district itself, notwithstanding the statement of the Officiating Deputy Commissioner,‡ that "no complaints are made of the want of well-made roads being any obstacle to the traffic."

From its distance from all the lines of ordinary travel, this district is almost unknown, except in name, beyond its own borders. With the exception of the one line§ running east and west towards Cuttack and Nagpoor, there may be said to be no main road in the district, and the difficulties of transporting its varied produce to distant marts, leaves little more than nominal prices for the producer in the majority|| of instances. The capabilities of this fine district are very great, not only from the growth of cotton, but also from grain of every description, oil seeds, lac, koosum, &c., &c., and I am convinced that with improved communications the present land revenue (between five and six lakhs) might in a very few years be more than doubled¶. The only portion of its produce which finds its way out of the province is, that taken by Binjarries by a track almost unknown, save to themselves, to the Eastern Coast, as described by Captain Saxton in his letter of the 21st March last, No. 357, a copy of which accompanies this report.

This

* Two hundred thousand bales of 100 bls. each, or half that number of bullock loads. It is supposed that upwards of 50,000 bullock loads leave Hingunghat and that part of the Nagpoor district annually.

† A detailed report on the road fund has been submitted in the Foreign Department, and rules prescribed for its future management.

§ This is to be a 2d class road, extending from Bishnoor on the Wurda, towards Oomraotee, and running through Nagpoor, Bhundarra, and Raepoor, to the junk Nuddee, in the direction of Sumbhulpoor and Cuttack.

The residents of Raepoor get their letters from Calcutta via Cuttack and Sumbhulpoor. It is the "old Raepoor Post road."

|| Arrangements are in progress for completing the communication between Raepoor and Jubbulpoor over the Rajahdhar or Chilpee Ghats.

¶ The introduction of the survey into the Raepoor District is most desirable. The extent of culturable land, that of the first quality, is reported to be very great, but with a little more than a nominal value for produce from the want of outlets. An improvement in the lines of communications should be simultaneous with a proper assessment on the land after survey. The produce of Chutteesgurh in distant markets would realise sums which would amply repay the landholders for bringing the lands now waste under cultivation, whilst their extent with a liberal margin would greatly raise the present assessment. Nothing, however, can be attempted until the measurement of the lands can be effected.

‡ Letter No. 186, dated 16th April 1861 para. 7, copy accompanying.

This track appears to deserve more attention than it has hitherto received. From Captain Saxton's account indeed, its being at all passable is owing to the efforts of the Rajah of Kalahundy or Kharondh (a dependency of this province), and I purpose to invite him to meet me at Chanda during the ensuing cold season, with the other chiefs and talookdars under the jurisdiction of the Deputy Commissioner on the Godavery, and to endeavour to keep up his interest on this road, by pointing out the advantages that must accrue not only to the district of Raepoor, but also to his own estates, by its being established as a permanent line; at the same time, I would gladly have it in my power to assure him of funds being forthcoming to improve the line, and make it at once a good fair-weather road, travelling at all seasons. In effecting this object, the Rajah's co-operation and assistance may be turned to account. He would in his own ilaqua obtain labour much cheaper than we could.

I have requested Captain Saxton to furnish me with a sketch map of the country through which this road passes, as well as with any further information he may possess regarding it, with a view hereafter of proposing its permanent construction (on such a scale as may be found necessary) after examination and survey, as a branch of the present eastern line from Nagpoor through Raepoor, to Sumbhulpoor and Cuttack.

The road is clearly deserving of serious attention, not only as an outlet for the produce of the Raepoor district, but as an inlet for salt imported from the coast in large quantities, and which will increase with the facilities for its transport.* It appears to me also that this route would be better adapted for troops moving between this province and the districts in the Madras Presidency on the eastern coast, than the more circuitous one now in use *via* Sumbhulpoor, the ghat on which line is described as a very difficult one.

7. In conclusion, I would solicit the favourable consideration of his Excellency in Council to the project explained in the 5th paragraph of this letter, as a means of expediting, at no great cost, the transport to the ports of shipment of cotton grown in the Chanda and Nagpoor districts, in localities off the main lines of road, and yet at no great distance from them.

8. I would refer also to the concluding passage of the chief engineer's letter under transmission. Colonel Maxwell's opinion on the subject is in accordance with my own. If the parties most interested in the cotton trade were to establish agencies in this part of the country, and introduce a proper system of pressing and packing, and create establishments for providing the requisite carriage, the supply would very soon equal any demand that might be made. With improved communication and increased facilities for transport, this province and the neighbouring districts, north and south, would very soon produce any amount of cotton which could possibly be required.

9. Annexed is a table showing the prices realised this year at Bombay for cotton from Hingunghat, Oomraotee, and Arwee, including the cost of its transit from the places named.

Enclosure 2, in No. 13.

No. 296, dated 20th September 1860, from Deputy Commissioner, to
Commissioner of Nagpoor.

WITH reference to the circular letter from your office noted in the margin, and the subsequent memoranda regarding it, transmitting a printed copy of a despatch from the Honourable Court of Directors in the Revenue Department, dated 22d July 1857, No. 10, calling for specimens of the cotton plant, and information regarding its culture, &c. &c., I have the honour to forward specimens of the plant, its produce, and the soil it is grown on, as enumerated marginally, and to report as follows:—

2. The soil upon which by far the greatest quantity of the cotton of this province is grown, is that known all over India as the black cotton soil. It is extremely light and naturally rich, and requires very little manure, and, as a rule, gets none. The poorer kind of soil in which cotton is sometimes grown, is a mixture of this with a greyish earth, and a quantity of lime-stone, and if this is situated near the village, it is sometimes manured.

3. The black soil or loam varies in depth from 1 foot to 20, and sometimes more; as a general rule, it is not much infested with weeds.

4. The cotton is sown in the commencement of the rains, immediately after the first fall, or from the middle of June to the middle of July, according to the season; it is occasionally planted in alternate rows with dall or toor, but mostly by itself; no artificial irrigation is employed, and with the exception of running a plough through between the rows of plants, to throw the earth up over the roots once when the plants have attained a few inches of growth

- | | |
|----|--------------------|
| 1. | Packet of Soil. |
| 2. | " " |
| 3. | " " |
| 4. | " " |
| 5. | Specimen of Plant. |
| 6. | Flowers. |
| 7. | Clean Cotton. |
| 8. | Cotton Seed. |
| 9. | Uncleaned Cotton. |

* The Deputy Commissioner of Raepoor estimates the income from the tax recently imposed upon salt, at a lakh of rupees.

I.
India.

growth, they are left to shift for themselves. The plant flowers in October or November, the picking commences in December, and goes on to the end of February or middle of March; in good seasons the produce will yield a return of from 10 to 20 fold, while in inferior soils it seldom yields more than from four to five, that is, supposing a maund weight of seed to be sown, the produce would be from 10 to 20 maunds in good, and from four to five maunds in indifferent land; but of this, on cleaning the cotton three-fourths would be seed, so that for a maund of seed the produce in cleaned cotton would only be, off the best land, from two and a half to five maunds.

5. The black soil, in which the best cotton is grown, is the most fertile in India, and on it, in other localities, are produced the finest wheat; toor, jowarie, and other dry crops; it seldom, as before-mentioned, is manured, and does not seem to require much deepening. It is usually turned up to the depth of 6 or 8 inches once or twice after the first showers in June, and then the seed is put down.

6. The seed used is that commonly produced in the country, and the character of the plant is herbaceous, and its average height may be put down at 36 inches, the spread of the branches being about 12 to 15; when the picking is over, cattle are turned in to graze on the leaves and more tender of the branches; and the stalks are in many places, where wood is not procurable near at hand, cut down and used by the poorer classes for fuel.

7. To the geological character of the district, I am unable to speak. The main feature of the cotton growing portion of it is about 1,000 feet above the level of the sea, and is naturally well drained.

8. The rains usually commence early in June, and continues, with one or two breaks of 10 to 15 days each, till the beginning of October. Irrigation is nowhere employed.

Enclosure 3, in No. 13.

No. 91, dated 3d April 1861.

From A. Ross, Esquire, Superintendent of Survey and Settlement, to Deputy Commissioner of Nagpoor.

WITH reference to the notification lately issued by Government and seen by me in the newspapers, regarding the production and transport of Indian cotton, I beg to hand you a statement which I have had compiled from the survey khusras, showing the extent of cotton cultivation in the several pergunnahs of the Nagpoor district.

2. I am afraid that observations from me, which your own superior local knowledge may render superfluous, will appear out of place; yet, as an accompaniment to the skeleton map forwarded herewith, showing the relative positions of the several pergunnahs, I would remark that the great bulk of the cotton producing lands is in pergunnahs lying on the eastern and southern confines of the district, and the produce therefore does not require long transport through it, whether the line of exit be to Bombay *via* Berar, or to Madras *via* the Godavery. Ashtee, the western portion of Anjee, Nachengaoon, Undoree, and Pohna, are all in the flat open country constituting the valley of the Wurdah; while Pownar and Hingunghat also occupy a comparatively champaign tract. Katal, Kondalee, and Kailjbur are the three largely producing pergunnahs that most require improved means of intercommunication. Main roads run through all three, but the country is, as you are aware, hilly and difficult in the extreme. Anjee is also hilly to the east, but the ranges of hills from valleys traversable without much difficulty.

3. It will be seen that 281,214 acres or 439 square miles of the Nagpoor district are under cotton cultivation. My inquiries give two khundeas as the produce of one "khundee" of land. I take the "khundee" to be a measure of eight acres, and the weight of produce being made by the cotton seer of 24 rupees, the produce of one khundee or eight acres is 12 maunds by the seer of 80 rupees, or one maund and a half per acre. Of this produce one-fourth is cotton-wool and three-fourths seed, so that the produce of each acre may be estimated at 15 seers or 30 lbs., and the total yield of cotton-wool at 8,436,420 lbs. or 58,586 bales, a quantity nearly equal to one-thirtieth of the export from all India to Great Britain during the past year 1859-60.

4. What the proportion may be that has been retained for district consumption, and what exported, is ascertainable from the traders at the great marts of Hingunghat, Nachengaoon, and Arwee; but if the entire produce were exported, it would give a traffic of 29,293 bullock loads, each of which, consisting of two bales, weighs 3 maunds 24 seers, or 288 lbs., or of 8,369 cart loads, seven bales being ordinarily loaded on one two-bullock cart.

5. The cultivation of cotton is of course capable of great extension. If you desire it, I shall supply a memorandum of the quantity of land in each pergunnah adapted for cotton cultivation, and I will be happy to furnish any other information that my office can afford.

STATEMENT showing the extent of COTTON CULTIVATION in the Pergunnahs of the Nagpoor District.

I.
India.

Pergunnahs.	Acres.	REMARKS.	Pergunnahs.	Acres.	REMARKS.
Pohna - - -	23,064	NOTE.—Cotton is not cultivated in Pergunnahs Nagpoor and Ambhora.	Amnair - - -	7,635	NOTE.—Cotton is not cultivated in Pergunnahs Nagpoor and Ambhora.
Anjee - - -	34,132		Kailod - - -	5,116	
Nachengaon - - -	30,185		Hingna - - -	3,667	
Pownar - - -	21,997		Kulmaishwur - - -	3,400	
Kailjhur - - -	21,855		Boree - - -	1,495	
Undoree - - -	20,070		Oomrair - - -	514	
Kondhalee - - -	18,873		Patunsaongee - - -	267	
Ashtee - - -	18,198		Bhewgurh - - -	135	
Katal - - -	18,108		Kharsa - - -	77	
Hingunghat - - -	17,033		Ramtaik - - -	38	
Baila - - -	11,810		TOTAL - - -	281,214	
Girur - - -	8,545				

PRICES OF COTTON at BOMBAY.

Description of Cotton.	Cost per lb. according to one Account.	Cost per lb. according to another Account.	Average Cost per lb.
	As. d.	As. d.	As. d.
Hingunghat Cotton - - -	3 or 4½	2¾	} 2½ equivalent to 4½
Arwee and Oomraotee Cotton - -	2½ or 4½	2¾ or 3½	

One of the sources of information from which the above is derived, gives the average price for this year at Bombay, of Hingunghat cotton, at 145 rupees per load of 784 lbs., and of Arwee and Oomraotee cotton at 138 rupees for the same quality.

Another gives 140 rupees per load of 864 lbs. as the average price of both descriptions.

In these sums is included the cost of transit to Bombay, which this year has risen from 24 rupees to 42 rupees for the quantity carried, while the cotton itself at Hingunghat is stated to have advanced in price from 27 rupees to 35 rupees per bojah, or bullock load of 268 lbs.

The facts are significant of the times.

Enclosure 4, in No. 13.

From Secretary to Government of India, Public Works Department, to Commissioner of Nagpoor. No. 2152, dated 21st June 1861.

In your letter No. 69, dated 4th June, you propose to expend 75,000 rupees in making district roads, as feeders to the main roads now under construction. You estimate that this sum will make 300 miles of such road, at the rate of 250 rupees a mile; you propose to provide 25,000 rupees from the local funds, and to put the work in the hands of the local committees, and you would place at the disposal of each of them a qualified native surveyor.

2. I am directed to say that the local funds are at your own disposal to expend to any extent you may think desirable on the district roads. The only regular source of supply

I.
India.

for native surveyors is the Thomason College at Roorkee. You should place yourself in communication with the principal, through your chief engineer or otherwise.

3. In the orders of Government of the 1st April, No. 980A, authority was given to you to expend 100 rupees per mile in improving the existing tracks of the Great Deccan Road, to facilitate the export of cotton. It was intended to make provision for this in the budget, but the matter was overlooked in issuing the budget orders. The amount would have been 10,000 rupees. I am directed to state that to meet the sum available from local funds, you may draw this 10,000 rupees from the extra lakh lately assigned to Nagpoor, for the purpose of opening out feeders as you propose, and you may add to the contribution from the same source. But I am to request that you will report how much out of the lakh it will be expedient to take, bearing in mind that the addition of that lakh to your year's assignment was made chiefly in view to the more vigorous prosecution of the permanent trunk lines.

— No. 14. —

EXTRACT PUBLIC WORKS.

DESPATCH to India, dated 24 September (No. 48) 1861.

3. THE papers regarding the cultivation of cotton in Nagpoor, and the construction of roads to facilitate its transport to the ports of shipment, have been communicated to the Manchester Cotton Supply Association.

— No. 15. —

Public Works Department.—Public.—No. 46 of 1861.

COMMUNICATIONS.—ROADS.

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir,

Fort William, 13 July 1861.

IN connexion with our Despatch No. 41, dated 27th ultimo, on the subject of Nagpoor cotton and roads, we have the honour to forward for the information of Her Majesty's Government, the enclosed memorandum by the Commissioner of Nagpoor, on a complete system of roads for that province. The memorandum is accompanied by maps, which make it sufficiently intelligible.

2. The requirements of the province are represented to be as follows:—

IMPERIAL ROADS.

First Class	-	-	-	-	-	10½ miles.
Second ditto	-	-	-	-	-	545 „

PROVINCIAL ROADS.

Second Class	-	-	-	-	-	460 miles.
Third ditto	-	-	-	-	-	300 „

DISTRICT ROADS.

Fourth Class	-	-	-	-	-	1,000 miles.
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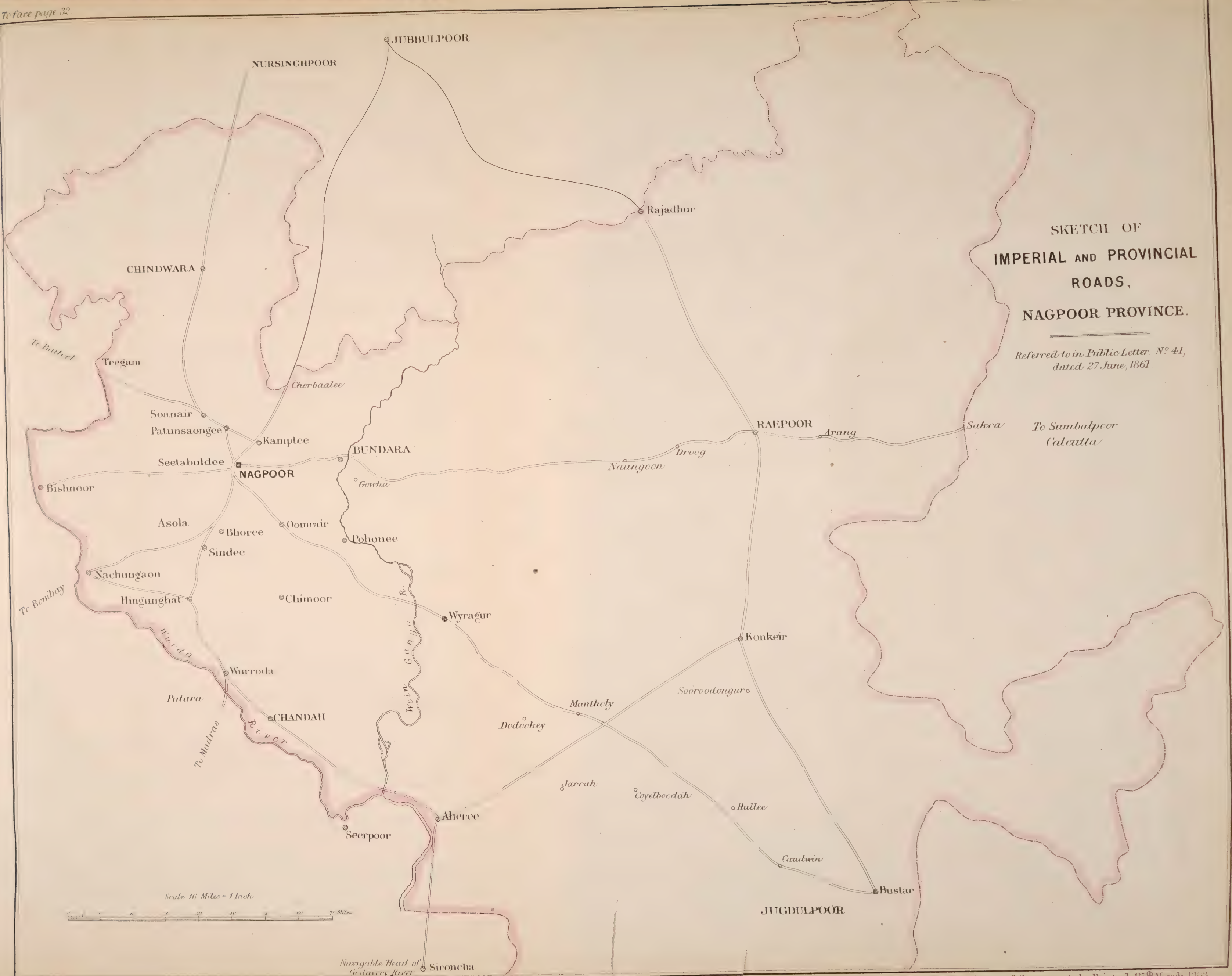
The roughly estimated cost is—

100 miles	First Class	Road, at 7,000 rupees a mile	-	-	7 lakhs.
1,000 „	Second	„ 3,750 „	-	-	37½ „
300 „	Third	„ 1,000 „	-	-	3 „
1,000 „	Fourth	„ 250 „	-	-	2½ „

TOTAL - - - Rs. 50 lakhs.

The complete system for the province will cost therefore on this estimate not less than half a million sterling.

3. On

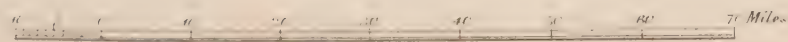


SKETCH OF
IMPERIAL AND PROVINCIAL
ROADS,
NAGPOOR PROVINCE.

*Referred to in Public Letter, N^o 41,
dated 27 June, 1861.*

*To Sumbulpoor
Calcutta*

Scale 16 Miles = 1 Inch



*Navigable Head of
Godavari River*

3. On reference to para. 3 of the Commissioner's letter No. 69, dated 4th June,* you will observe the bearing of this scheme on the export of cotton. The cotton-producing districts are Nagpoor and Chanda, and outlets are provided by the Great Deccan Road northwards to Mirzapoor, and westward by the same road to Bombay. The southern road south of Nagpoor, passing through the cotton mart of Hingunghat, extends to Wurrora on the Wurda river, whence a branch runs to Chanda. This will prove an important tributary to the stream of traffic northwards, while the road from Hingunghat to Nachengaon will aid its escape towards Bombay.

I.
India.

* Enclosed in
Despatch No. 41,
dated 27th June.

4. Raepoor does not export cotton at present, except of a coarse kind, and on a small scale, to or towards the eastern coast. The Commissioner's memorandum will show you, that the improvement of the present very rude and almost unknown track† pursued by the bunjaras has not been lost sight of. Further observations will be found in para. 6 of the Commissioner's letter last quoted. Raepoor will also be connected with the Great Deccan Road at Jubbulpoor.

† This is necessarily
omitted from the
map.

5. We now proceed to inform you what is being done towards realising the Commissioner's project.

6. The arterial line of traffic is the Great Deccan Road. Besides the portion in the Nagpoor Province, the Public Works Department of Nagpoor has been entrusted with the construction of its extension beyond the northern boundary as far as Seonee. Estimates have been prepared and sanctioned for the portion that lies between Kamptee and a point nine miles beyond the northern boundary, and from Nagpoor southwards to within about a mile of the river at Bhoree, a distance of 16 miles. The aggregate of the estimates sanctioned for this road amounts to 3,10,272 rupees, which provides for the construction of 45 miles.

7. Beyond the province, the section between Seonee and Jubbulpoor will be constructed by the Public Works Department of the North Western Provinces. That Government proposed in its budget to reserve 56,000 rupees‡ for this road, but we requested that a larger grant might be given [vide Budget Orders, paras. 26-7], and the Lieutenant Governor has made an allotment of 95,000 rupees, increasing the latter of the two items entered in the margin to 60,000 rupees. From Jubbulpoor to Mirzapoor a good metalled road already exists, and the larger streams, though not bridged, are provided with causeways, and are easily passable at all times except during the monsoon. The cotton passes up in the dry months.

	Rs.
‡ Three Bridges - - -	33,000
Earth-work and metalling -	21,057
	Rs. 56,057

8. For the improvement of the road beyond the province of Nagpoor on the west, in the Berar territory, a sum of 100 rupees a mile was sanctioned towards the close of last year. The Resident at Hyderabad has been requested to direct the Chief Engineer to visit the line, and report how much can with advantage be spent on this portion of the road to render it speedily fit for the easy transit of traffic—(vide Hyderabad Budget Orders, Nos. 33-7). Further west, in the Nizam's actual dominion, more than 20,000 rupees was allotted for the repairs of the road as far as Aurungabad, and between this place and Toka, on the Bombay frontier, 60,000 rupees will be spent in bridging and metalling the road.

9. To return to Nagpoor: Estimates have been submitted for the section of the southern road from Bhoree, 16 miles south of Nagpoor, the point where this road branches off from the Great Deccan Road to Kumbara, 13 miles beyond Hingunghat. The amount sanctioned is 1,58,385 rupees, and the length 41 miles.

10. Estimates have also been sanctioned for 48½ miles of the eastern road between Nagpoor and the Lucknee river, 12½ miles beyond Bhundara, amounting to 1,72,670 rupees.

11. The whole amount of work already sanctioned in the province of Nagpoor amounts therefore to 134½ miles of road, estimated to cost 6,41,327, whilst further estimates are still under preparation.

I.
India.

12. You will have observed from the enclosures of our letter No. 41, that we have authorised for the present year the outlay of 10,000 rupees, or more, if desirable in the judgment of the Commissioner, on district roads, to meet an allotment of 25,000 rupees from the local funds.

13. Till very lately the conduct of the Public Works Department in Nagpoor was by no means in a satisfactory state, and extremely little had been done for the country. Since the accession of Major Elliott to the Commissionership, the staff has been almost entirely reconstituted, and a new spirit has, we have every reason to believe, been instilled into the department. The labours of the officers, from the Chief Engineer (Lieutenant Colonel Maxwell) downwards, to make up for lost time, have been praiseworthy, and their exertions in the preparation of data for these estimates, continued almost (if not quite) to the present moment at the most trying season of the year, in an oppressive climate, give us every reason to hope for good progress in future, and deserve our special recognition.

We have, &c.

Canning.

H. B. E. Frere

R. Napier.

Enclosure in No. 15.

MEMORANDUM ON ROADS in the Province of Nagpoor.

BEFORE proceeding to consider the detail of a scheme of roads for the province, it appears desirable to say a few words on the territory itself. A reference to the accompanying map will show that the province is of a triangular form, its extreme length from north to south being about 382 miles, and its breadth in the widest part of it 310 miles, exclusive of the detached principality of Kharond or Kalahundee on the east, which is 92 miles broad by 90 in length. Nagpoor is bounded on the north by the districts of Hoshungabad, Nursingpoor, Seonee and Mundlah, belonging to the Jubbulpoor division, and the Sirgoojah Rajah's Talooks. On the east by a portion of the Sirgoojah Talooks and Ramgurb, and by the numerous petty states belonging to Chota Nagpoor and Sumbhulpoor, by a tract of about 30 miles belonging to independent hill tribes (Khonds) in the district of Ganjam, in the Madras Presidency, and by the territory of Jeypoor, also under the Madras Government. On the south by the river Godavery, the Talook of Elumawur, belonging to the Nizam of Hyderabad, and by a portion of the Wurngunga, Pranheta and Wurdah rivers. On the south-west and west by the river Wurdah, which divides it from the Nizam's dominions, and by the district of East Berar, and portions of Baitool and Hoshungabad, in the Jubbulpoor division.

2. The first step in arranging a scheme of roads is to classify them in the order of their importance, and this may be done under the three headings—

Imperial,
Provincial, and
District.

3. The imperial lines are those in the construction and maintenance of which the interests of the state preponderate, as lines of military communication, or for advancing the commercial interests of India generally; the provincial lines standing to the province, and the district lines to the several districts, in the same relation as the imperial lines do to the empire at large, each being intended in its own degree for the improvement of the country and the better development of its resources.

4. The provincial roads would act as feeders to the imperial lines, whilst the district roads would perform the same office to both imperial and provincial lines.

5. The cost of the construction of the imperial lines would be borne by the imperial revenues of India, the cost of the provincial lines being defrayed by the imperial and local revenues conjointly, in proportion to their general or local importance, leaving the outlay required for district lines to be borne by local funds alone, save in instances where imperial projects may be materially furthered and expedited, when the imperial funds might be charged with a quota of the expenditure.

6. A glance at the map of India will show that from the position of Nagpoor with reference to the four Presidencies of Bengal and Bombay, Madras and the North-Western Provinces, the main imperial line must be the one known as the Great Deccan Road, which, leaving the Grand Trunk Road from Calcutta to Lahore at Benares, crosses the Ganges near Mirzapoor, and passes *via* Jubbulpoor and Seonee through Nagpoor to Jaulnah, Ahmednuggur and Poonah, connecting Calcutta with Bombay. This line enters the

Nagpoor

Nagpoor territory about 49 miles south of Seonee, and passing through the military cantonment of Kamptee and the civil station of Seetabuldee, the head quarters, of the province, leaves it at the river Wurdah, a few miles to the westward of Nachengaon, having a course through the province of about 104 miles in length.

7. The next in importance is the southern line, commencing, it may be said, at Agra, and passing *viâ* Gwalior and Jhansi to Saugor, whence it should be continued through Nursingpoor, entering this territory in the Chindwarra district above the Ghâts, and from Chindwarra proceeding by Nagpoor and Hingunghat towards Hyderabad and Madras, thus connecting the Punjab and Delhi through Central India with the Southern Presidency.

This road might, as suggested in the letter from this office noted on the margin,* will be called the Great Southern Road of Central India.†

8. The third imperial line ‡ would be that traversing the province from east to west, starting from Calcutta and passing *viâ* Midnapoor, Cuttack, and Sumbhulpoor through Raepoor, Bhundara and Nagpoor towards Oomraotee and Ellichpoor in Eastern Bearar. This line joins the Great Deccan Road at Nagpoor, and in conjunction with it was, prior to 1853,§ the postal line between Calcutta and Bombay. Since 1853, this line has been superseded by the one *viâ* Mirzapoor and Jubbulpoor, though a foot dâk is maintained between Calcutta and Nagpoor along the old post road for the convenience of the residents of Sumbhulpoor and Raepoor, &c.

9. We now come to the provincial lines of road. The first should be a continuation of the road between Jubbulpoor and Mundlah over either the Rajadhar or Chilpee Ghâts into Chutteesgurh, with a road from its sudder station of Raepoor to the out-station of Belaspoores Ruttunpoor, and the northern boundary. Again, southward there should be a road from Raepoor through the Bustar territory (a tributary of Nagpoor) to Sirancha, situated on the Pranheta, near the navigable head of the Godavery, and the site selected for the head quarters of the deputy commissioner in charge of the six Talooks || on the left bank of that river, recently ceded by his Highness the Nizam.

Sirancha should also be connected with the southern imperial line by a branch *viâ* Aheree and Chanda to Wurrorah, about 30 miles south of Hingunghat.

10. Another road branching from the east and west (imperial) line should start from some point (to be determined on hereafter) east of Raepoor, and passing through the territory of the Rajah of Kharoudh (Kalahundy in the map) be carried through the Jeypoor estate (belonging to the Madras Presidency) to the sea coast; thus connecting this province with the ports on the eastern coast to the south of Ganjam. This appears from a report by Captain Saxton, copy of which was forwarded with this office letter noted marginally, to be the most direct and feasible line for the residents of the eastern portion of this province to reach the coast, and its importance in a commercial point of view should not be lost sight of.

11. The next line is one from Seonee (Jubbulpoor division), on the Great Deccan Road, through our northern district to Baitool (also in the Jubbulpoor division), for the purpose of connecting Chindwarra with Jubbulpoor on the north-east, and Bhopal and Indore through Hoshungabad on the north-west. This line would have about 85 miles of its length in the Nagpoor province. There is another road, which, though entirely within the limits of the Nagpoor district, is provincial if not imperial in importance, and should be constructed. It runs between the town of Hingunghat on the southern (imperial) line and Nachengaon on the Great Deccan line, near to which latter place there is to be a railway station. Hingunghat is a very large cotton mart, as already reported. The distance between Hingunghat and the Wurdah along this line is about 45 miles.

12. Two short lines from the cantonment of Kamptee remain to be noticed. The one to Patunsaongee, a distance of 14 miles, connecting the cantonment with the southern imperial line towards Chindwarra and the north, and the other to Goomtarah, about 14 miles, to connect Kamptee with the east and west imperial line towards Bhundara. These two roads are required mainly on military grounds to facilitate the march of troops from the head quarters station of Kamptee towards the districts east (Bhundara and Raepoor) and north (Chindwarra, Baitool, Hoshungabad, &c. &c.)

13. With these the list of provincial requirements may be closed. Of the imperial lines, the Great Deccan and Southern Roads are already under construction, the first named being a first class road, and the other a second class road on a first class basis. The eastern line is also sanctioned, and two sections, comprising the distance between Seetabuldee and Bhundara, are under construction. This is a second class road.

The remaining provincial lines should all be of the second class, with the exception probably of the proposed line between the Raepoor district and the eastern coast, for which a less expensive class of road might, in the first instance, be found sufficient.

14. The

I.
India.

* No. 64, dated 29th May 1861.

† The length of this line through the Nagpoor Territory will be about 225 miles.

- || 1. Sirancha.
- 2. Noogoor.
- 3. Cherlah.
- 4. Albaka.
- 5. Rakapilly.
- 6. Budrachellum.

No. 69, dated 4th June 1861.

‡ This line enters the Nagpoor territory at the Jonk Nuddee, about 70 miles to the east of Raepoor. It runs for a distance of 320 miles through the province, leaving it at Bishnoor, on the Wurdah, about 70 miles west from Nagpoor, on the direct road to Oomraotee.

§ Before the bi-monthly steamer to Calcutta, the English mails from Bombay were dispatched by the Raepoor postal line.

I.
India.

14. The extent to which these lines of road will be affected by the line of railway now in progress from Bombay to Nagpoor, by Oomraotee, and through the valley of the Nerbudda, with a branch to Jubbulpoor, and eventually to the Ganges, must be considered.

15. The only line of road that will be in any way affected by the rail is the Great Deccan Road, and this only very partially. Beyond the limits of this province, that is, from Jubbulpoor to Mirzapoor, the rail and the road from their proximity may be viewed as antagonistic by those who consider a good road along a line of railway to be unnecessary. But between Jubbulpoor and Nagpoor, a distance of 160 miles, there is no rail or branch rail in contemplation; whilst the natural difficulties of the country between these two points make it improbable that any attempt to connect them by rail will ever be made. From Nagpoor, however, westward as far as the boundary of the province near Nachengaoon, the road and the rail will run side by side; but here any rivalry between them will terminate, the rail turning to the north-west towards Oomraotee into Khandeish, while the road continues on its course to the southward west in the direction of Jaulnah, Aurungabad, Ahmednuggur and Poona, at which latter place it meets a branch line of railway connecting that station with Bombay. In a military point of view, therefore, the importance of the Great Deccan Road in this province ought not to be materially lessened by the introduction of the rail, for it will still be required to maintain our communication with Seonee and Jubbulpoor to the north, and with Jaulnah, Aurungabad, Ahmednuggur, and Poona to the west.

	Miles.
Great Deccan - - -	104
Southern Line - - -	225
Eastern Line - - -	320
Total Miles - - -	649

16. The entire length of the three imperial lines of road within this province may be set down at 649 miles. The number of miles of the projected provincial lines is about 762, making a total of 1,412 miles, divided amongst 10 lines, one of which is of the first class, eight of the second class, and one of the third. Estimating for these at our present rates, an outlay of 47½ lakhs would be needed for their completion, a portion of which would be borne by the local funds.

	Lakhs.
100 Miles at 7,000 rupees -	7
1,000 " 3,750 " -	37½
300 " 1,000 " -	3
Lakhs - - -	47½

17. Of the district lines, those connecting the several Tehseeldarees with the sudder stations, of their respective districts, and with each other, are the first in importance. The next being the opening of cross lines to connect the Tehseeldarees and the principal marts and bazars with the provincial and imperial main lines and with each other. These district lines are too many in number to enumerate here, but their aggregate length may be estimated at 1,000 miles. They may all be of the fourth class, or what are commonly denominated fair-weather roads; and taking the expenditure needed for their construction at 250 rupees a mile, would involve an outlay of 2,50,000 rupees.

18. From the foregoing it will be seen that a scheme of roads, such as the one herein sketched, would require funds to the extent of fifty lakhs of rupees, supposing present rates to continue—a large sum certainly, though scarcely more than would be warranted by the results. The annual revenue of the territory amounts to little more than 40 lakhs; but with roads of ingress and egress in all directions, the increase that might be looked for would, I firmly believe, yield a very handsome return for an expenditure even of half a million.

Nagpoor, Commissioner's Office,
12 June 1861.

E. K. Elliott,
Commissioner.

— No. 16. —

PUBLIC WORKS DESPATCH to Government of India, dated 16 October
(No. 55) 1861.

Para. 1. Your letter, No. 46, dated 13th July last, upon the subject of roads in the Province of Nagpoor, has been considered by me in Council, and a copy of it, together with its enclosures, forwarded for the information of the Manchester Cotton Supply Association.

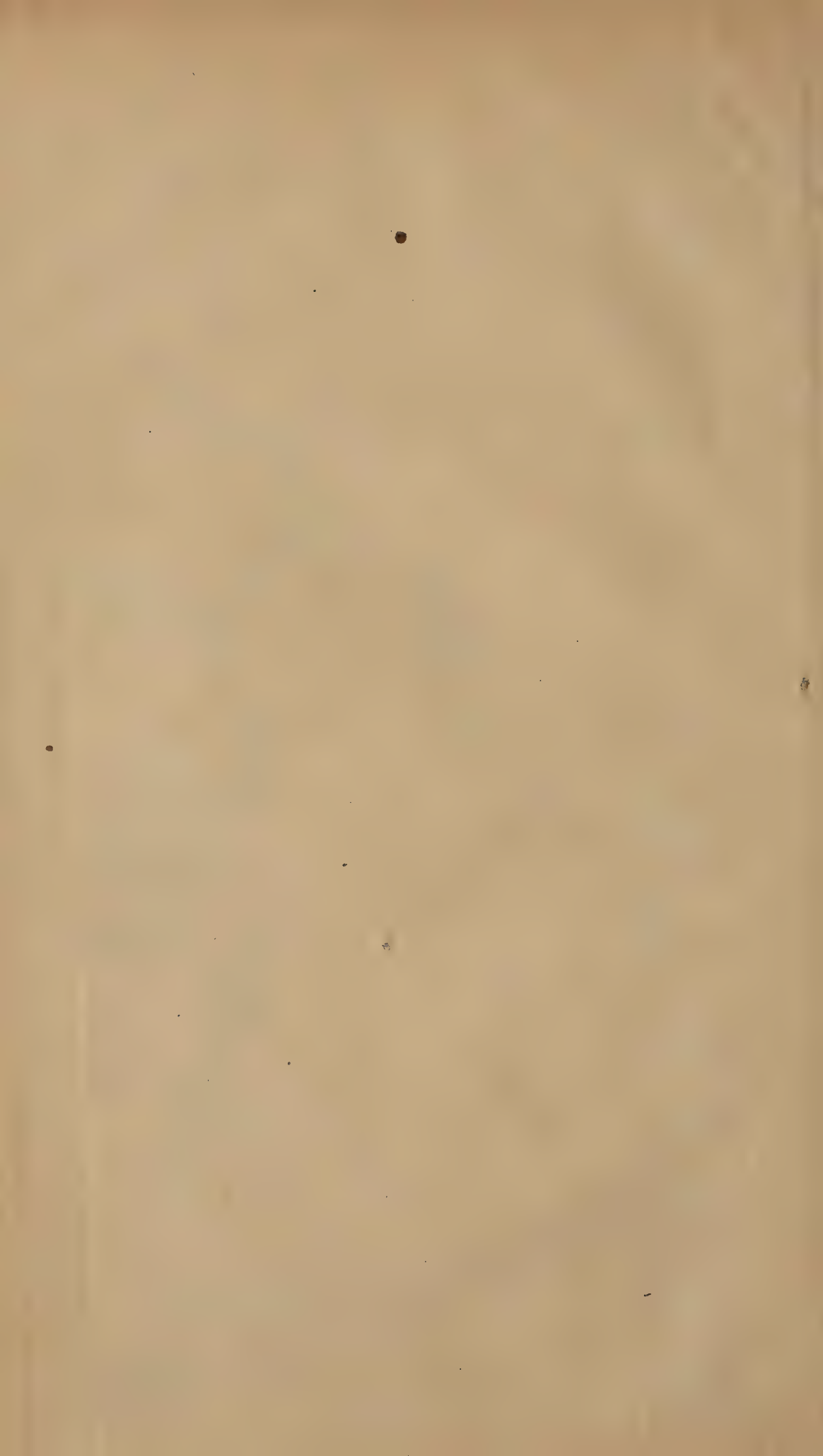
2. The Commissioner of Nagpoor proposed that a complete system of roads should be commenced throughout the province, the requirements of which he represented at 645 miles of imperial, 760 of provincial, and 1,000 miles of district roads, the cost of which has been estimated at 50 lacs. The primary object in view is, however, that its cotton-growing districts should be provided with means of exporting their produce; and for this purpose I perceive that you have already sanctioned a sum of 3,10,272 rupees for the construction of 45 miles of road, commencing at a point nine miles beyond the northern boundary of the province, and running through Kamptee and Nagpore to Bhoree. The completion of the road from the same point, northward to Seonee, has also been sanctioned, and with the portion between Seonee and Jubbulpore,



MAP OF INDIA
to illustrate the Report on the
IMPERIAL & PROVINCIAL ROADS,
CONNECTED WITH THE PROVINCE OF
NAGPORE.

Referred to in Letter (Public) No. 46,
dated 13 July 1861.







Jubbulpore, to be constructed by the North West Provinces, a complete communication will then be established with Calcutta *via* Mirzapore.

3. In addition to this, you have sanctioned 1,58,385 rupees for the construction of 41 miles from Bhoree to Kumbara, which will enable the Chanda cotton to find its way to Bombay *via* Hinginghat and Oomrawuttee, and, with regard to the Raepoor cotton, which has hitherto been very inferior, and only exported in small quantities to the eastern coast, the line which you have sanctioned, at a cost of 1,72,670 rupees, running from Nagpore to the Lucknee River, 12½ miles beyond Bundhara, and the facility thereby afforded for its transmission to Bombay, will no doubt have the effect of encouraging the cultivators both to increase the quantity and improve the quality grown.

4. These three main lines, together with such district roads as may be constructed with the 35,000 rupees available for the purpose, will, at any rate, form a good groundwork for the ultimate completion of a proper system of roads throughout.

C. Wood.

— No. 17. —

EXTRACT PUBLIC WORKS DESPATCH to Government of India,
dated 16 July (No. 34) 1861.

PREFERENCE, too, should at the present juncture be given to works calculated to promote or increase the supply of cotton for the English market. It is no doubt with a view to one or other of these objects that you have urged the Madras Government to hasten the construction of the road to Sedaseoghur over the Kygah Pass, and have noted the small outlay on works in connexion with Godavery irrigation; that you have animadverted on the disposition evinced by the Bombay Government to press forward their harbour defences to the neglect even of roads and canals, and that you have called the particular attention of the Lieutenant Governor of the North West Provinces to three lines of road likely to be especially useful for the transport of cotton, and have suggested an augmentation of the sum proposed by the Lieutenant Governor for expenditure on the branches of the Ganges Canal. It is not, however, without disappointment that I find you apparently acquiescing in the proposal of the Madras Government to assign, this year, no more than two lacs to the improvement of the Upper Godavery. At this rate, it will take four years to make even the Sintral Barrier passable, and 15 or 20 years must elapse before boats, taking in cotton at Natchengaum, or Chandah, will be able to descend the river on their way to Cocanada.

3. Even during the continuance of financial pressure, more useful if not more rapid progress on works of improvement might, I think, be made by a still further concentration of resources. For instance, to refer again to the three cotton roads mentioned in the preceding paragraph—viz., those from Nagpore to Jubbulpore, from Saugor, *via* Jhansi, to Calpee, and from Futteh-gurh, *via* Bareilly, to Moradabad,—if funds are not forthcoming for the construction of all three in the course of one or two seasons, it would apparently be better to expend all the money immediately available upon one, and to do nothing upon the other two until that one were finished. It would be better to have one finished at the end of two years, a second in four years, and the third in six years, than, by working with inadequate means on all three simultaneously, to prevent any one from being finished in less than six years.

— No. 18. —

I.
India.

REVENUE DESPATCH to Government of India (No. 21), dated 25 July 1861.

IN continuation of my letter of the 8th July last, No. 17, I transmit, for the information of your Excellency in Council, copy of a letter from the Manchester Cotton Company, dated the 28th June last, in which they solicit that the travelling expenses of Mr. Forbes, who has received permission to assist in promoting the objects of the association, and of Mr. Haywood, who is about to accompany him to India on behalf of the company, may be defrayed at the public charge, and of the reply which I have directed to be sent to them.

Enclosure 1, in No. 18.

Manchester Cotton Company, Limited.
1, Newall's Buildings, Manchester, 28 June 1861.

Sir,
THE Directors of the Manchester Cotton Company (Limited) learn from a resolution of His Excellency the Governor General of India, dated the 28th day of February last, entitled "The Supply of Indian Cotton to England," that His Excellency is sending out officers to examine and report upon the best mode of speedily increasing facilities for the export of Indian cotton to this country; moreover, the resolution states that "The Government of India will be prepared to bear the charge of the travelling expenses of any gentleman who might be deputed by commercial communities to accompany its officers."

You have already liberally consented to place the services of Dr. Forbes at the disposal of the Board, to accompany Mr. Haywood, now about to proceed to India on a mission embracing the objects stated in His Excellency's resolution. The Directors now respectfully inquire whether you will entertain the application they now make to you, to order that the expenses of Dr. Forbes and Mr. Haywood be defrayed out of the funds set apart by His Excellency for that purpose. The further application now made, appearing to come directly within the terms of His Excellency the Governor General's resolution, the Directors are bound, in the interest of the shareholders, to ascertain your decision upon the matter.

The Directors desire me to convey to you their best thanks for the readiness with which you have responded to their previous requests: acting from a sense of duty, they are assured that you will decide in equity as to the further claim they now make upon you, and that you will not view this application in the light of importunity, or as a matter of favour.

I have, &c.

David Chadwick.

The Right Honourable
Sir Charles Wood, Bt., G.C.B. M.P.,
India House, London.

Enclosure 2, in No. 18.

Sir,
I AM directed by the Secretary of State for India in Council, to acknowledge the receipt of your letter of the 28th ultimo, in which, on behalf of the Manchester Cotton Company, you inquire whether, in accordance with the views contained in a resolution of the Governor General of India in Council, dated the 28th February last, the travelling expenses of Dr. Forbes and Mr. Haywood, who are about to proceed to India on a mission embracing the objects stated in that resolution, will be defrayed by the Government.

Sir Charles Wood does not consider that the Government of India contemplated the deputation of persons from this country for the purpose of acquiring information as to the means by which the supply of cotton from India might be facilitated and increased, and he must therefore decline to authorize the payment of Mr. Haywood's passage to Bombay. Dr. Forbes, being in the actual service of the Government, will of course be entitled to have the travelling expenses which he may incur, on any mission which he may be authorized to undertake, defrayed at the public charge. Sir Charles Wood, however, would not feel justified in authorizing the payment from the revenues of India of the travelling or other expenses of an agent employed by private individuals, but at the same time he does not wish to interfere with any arrangements already made under the terms of the resolution.

Copies of this correspondence will be forwarded for the information of the several Governments in India.

I am, &c.

De Grey and Ripon.

David Chadwick, Esq.,
1, Newall's Buildings, Manchester.

— No. 19. —

Home Department.—Revenue.—No. 11 of 1861.

To the Right Honourable Sir *Charles Wood*, Bart., G. C. B., Secretary of
State for India.

Sir,

IN continuation of our letter, No. 4, dated the 2d of March, we have the honour to transmit for your information copy of a correspondence with the Government of Bengal, relative to the capability of the several divisions of the Lower Provinces for the production of cotton.

2. We also transmit a correspondence with Messrs. Mosely, Hurst, & Co., honorary agents of the Cotton Supply Association in Manchester, regarding the measures which, in the opinion of that association, should be adopted by Government for promoting the future supply of cotton from India.

We have, &c.

Canning.

H. B. E. Frere.

Fort William, 6th July 1861.

Enclosure 1, in No. 19.

From *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal, to the Secretary to the Government of India, Home Department—(No. 321 P., dated Lieutenant Governor's Camp, Parisnath, the 17th June 1861.)

Sir,

I AM directed to forward, for the perusal of his Excellency the Governor General in Council, the accompanying copy of a report,* from the Officiating Secretary to the Board of Revenue, regarding the capability of the several divisions of the Lower Provinces for the production of cotton, together with the Lieutenant Governor's reply. *No. 315, dated 10th ultimo.

2. Instructions will be issued for the immediate construction of the roads alluded to in paragraphs 7 to 9 of the latter communication, and the Commissioners of Chota Nagpore and Cuttack will be consulted as to the measures they would recommend to be taken for improving the other lines of communication in their divisions, alluded to in paragraphs 13 to 21 and 58 to 61 of the Board's letter.

3. From the 8th paragraph of the report it will be observed that the Commissioner of Chittagong is of opinion that a large and permanent increase in the cultivation of cotton can be brought about in that division, though this should be left, he conceives, to private enterprise. In this opinion, under ordinary circumstances, the Lieutenant Governor would unhesitatingly concur. But the conversion of the savage Kookees from their habits of murderous incursions into the plains, for the purpose of cutting off human heads and carrying away women into slavery, to habits of peacefully raising and selling cotton, would be so great a political object, as in the Lieutenant Governor's opinion to justify an exception, in the case of the Chittagong Hills, to the general rule of non-interference on the part of Government, and to warrant the establishment there of Government factories for buying, cleaning, and screwing hill cotton, such as is suitable to the English market.

4. The exceptional action of Government, temporarily and experimentally, in the matter of tea cultivation, which commenced about 25 years ago, has already produced private tea-planters, by whose exertions, in a very few years, tea will become the great staple export of the Bengal Presidency. The cost, as compared with the result of the precursorship of Government in this instance, was as nothing. And but for that precursorship, it is probable that not a pound of tea would have been grown to this day in India. This shows that there are exceptional cases, where general rules have no true applications; and the Lieutenant Governor is inclined to think that the encouragement of the growth of cotton in the Kookee tracts of Chittagong may be such a case.

5. Should this suggestion be thought worthy of consideration, it would of course be necessary to consult the local authorities before coming to any decision.

I.

India.

Enclosure 2, in No. 19.

From *Rivers Thompson*, Esq., Officiating Secretary to the Board of Revenue, to the Secretary to the Government of Bengal.

Sir,

Fort William, 10 May 1861 (No. 315).

Land Revenue.

*H. Stainforth, Esq.,
A. Grote, Esq., and
A. R. Young, Esq.

THE Under Secretary's letter of the 6th March last, No. 256 A., with the resolution of the Supreme Government, having been circulated by Mr. Secretary Dampier's docket of the 12th idem (No. 13 B.), among the several Commissioners* in the Lower Provinces, I am desired by the Board of Revenue to submit, with an expression of their opinion, the information they have been able to collect on the very important subject of the future supply of Indian cotton to England.

2. This information is arranged by divisions in order of the dates on which the local reports were severally received in this office.

Rajshahiye Division.
Mr. H. M. Reid
(No. 286, dated 18th
March 1861).

*Dinapore - 100
Bograh - 50
Rajshahiye - 16
Rungpore - 2

3. From the result of the local inquiries, specially made in 1857, it appears that, in that year only 168 maunds of cotton were produced in four* of the districts of this division; and Mr. Reid does not think that the cultivation has been extended since.

4. In Pubna and Maldah no cotton was grown then, nor is any grown now in Moorshedabad; but large quantities of it are imported by water from Mirzapore into the last-named district, and stored by merchants at the mart of Jeeagunge for sale.

5. Strong doubts are expressed by Mr. Reid whether, even with the prospect of a demand, the cultivation of cotton will expand very considerably in this division, except, perhaps, in the districts of Dinapore and Rungpore, which border on the Morung. There even, the very large crops of rice, sugarcane, tobacco, and of other equally valuable products now raised, yield a very remunerative and, generally speaking, very safe return; and, unless the soil of the two districts is peculiarly adapted for cotton, it is not likely that staple crops will be superseded to any extent for the mere chance that cotton may be more remunerative still.

6. The only way in which, Mr. Reid thinks, the local authorities can promote the culture of cotton, will be to give the widest publicity to the immediate prospect of a considerable and permanent demand for the article, and to afford every facility in their power to the inquiries of speculators and to the experiments of landholders, with a view to the introduction or extension of the cultivation of cotton in their respective districts.

7. This division, excepting in the district of Dinapore, contains every facility for the transport of cotton, if it should be generally produced, through the numerous water-channels by which it is intersected.

8. A large and permanent increase in the cultivation of cotton can, in Mr. Schalch's opinion, be brought about in the district of Chittagong, but only by private enterprise.

Chittagong Division.
Mr. V. H. Schalch
(No. 719, dated 9th
April 1861).

9. The whole country to the east of the surveyed portion of Chittagong, extending from Independent Tipperah on the north to Arracan on the south, is described to be admirably suited for the culture of the cotton plant, and, indeed, is known as the Kupass or Cotton Mehal. The tract formerly paid its revenue in cotton, while it also furnished large supplies of the material used in the fabric of the Dacca muslins. The fine rivers by which it is intersected, afford cheap and excellent means of communication with the various points for export. The ryots themselves, without capital, will not incur the risk of extending the cultivation, or of introducing new varieties of the plant, unless they are aided by the enterprise of parties engaged in the trade.

10. In Mr. Schalch's opinion, Bullooh and Tipperah would, under similar encouragement, also yield a large quantity of cotton.

Chota Nagpore
Division.
Capt. E. T. Dalton
(No. 393, dated 9th
April 1861).

11. A coarse description of cotton, called Rowteea, is grown, but in small quantities and for local consumption, in all the hilly parts of this division, especially in Jushpore, Sirgoojah, Korea, and on the hills of Chota Nagpore and Ramgurh.

12. As the cotton does not appear to be of a quality suited for the home market, no advantage would be gained by inducing the hill people to extend its cultivation; and attempts, repeatedly made, to grow a better description of cotton have always failed, from the unkindliness of the soil.

13. In Palamow and the adjacent pergunnah of Toree, a better description of cotton, to some extent exported, is grown. The soil in this tract is rich, and well adapted for cotton; and the quality grown would be improved, and the quantity increased, with a good market, and with cheaper means of transport than are now available.

14. So much of the cotton as finds its way out of the division is conveyed on pack bullocks to Chattra, in the Hazareebaugh district, and thence on carts to Chowparun, on the Grand Trunk Road.

15. Chattra is the largest mart for produce in this division, and the roads leading to it from Palamow, from Toree, and from Ranchee, which are mountainous and bad, could not be rendered passable for carts without considerable outlay.

16. But

16. But the trade in cotton and other produce of the division would be considerably stimulated by the conversion of the track between Chattra to Chowparun into a good road for traffic by carts. This improvement could be effected cheaply and with ease, as the whole track lies through an open and level country.

17. Singbhoom is regarded by Captain Dalton as the district in his division which offers the most promising field for experiments in the cultivation of cotton, which already grows well there; and the people would readily extend the cultivation if they were assured of a steady market.

18. The foreign varieties of cotton, which have been tried in this district, have succeeded, and 1167. is estimated to be about the yield of a beegah. But this cotton is rarely seen in the markets, and the price at which it would sell is consequently unknown. Country cleaned cotton is sold for about 2½ seers for the rupee; but the rate at which the Coles sell it cannot be readily calculated, as they generally barter the cotton for salt, in quantities judged by the eye.

19. The part of Singbhoom where the cultivation of cotton may at once be commenced, lies within 12 days' journey of Raneegunge, *via* Puruliah; as it possesses this advantage, that during the season when cotton is ready for export, country carts can travel along the whole route. The road from Raneegunge to Puruliah, a distance of 62 miles, is annually repaired, at an expense of about 1,000 rupees, as a part of the fair-weather road between Raneegunge and Ranchee.

20. No measures have been taken at the expense of Government for putting into proper order the track between Puruliah and Chyeabassah, a distance of 61 miles. It is just kept open in the dry weather by the owners of the estates through which it passes. The whole line between Raneegunge and Chyeabassah might easily, at a cost of 200 rupees per mile, be made a good cart-road. Such a road, combined with an increased demand, might induce an expansion of the culture of cotton; and it would also serve as a vent for the whole produce of Singbhoom, including raw tussur to the value of a lac of rupees.

21. It would pass near the copper mines of Seraikellah and through Chandel in the Maunbhoom district, where good roofing slate has recently been discovered by Doctor McClelland. It would be of great service to persons engaged in the timber trade. Moreover, Singbhoom contains vast tracts of unreclaimed land belonging to Government, and well adapted for most kinds of cultivation, and it would be of advantage to make grants on favourable terms to capitalists desirous of cultivating cotton here.

22. It is worthy of remark that Mr. Blechynden, superintendent of supplies at Chowparun, has succeeded during this year in raising a very good crop of excellent cotton from foreign seed supplied to him by the Horticultural Society.

23. Considering the locality on the Grand Trunk Road, the success is important, and Captain Dalton hopes that the experiment will be repeated with acclimatized seed on a more extended scale.

24. Cotton is not produced to any extent in any district of this division. Its cultivation was tried in Dacca about 12 years ago; but the experiment failed entirely, as reported to Government in Mr. Secretary Plowden's letter, No. 182, dated the 16th of April 1850.

Dacca Division
Mr. C. T. Davids
(No. 234, dated the 9th April 1861).

25. No district in this division is adapted for the cultivation of cotton.

26. But the Soonderbuns tract is pronounced to be peculiarly suited to this cultivation, particularly the islands of Burra and Chota Basdea, and Rungaballee, Chaplee, and Baleeatullee on the mainland; in fact, the whole tract north of Chaplee to the Gullacheepah river, as well as the lands on the banks of the rivers Barriissur, Beeskhallee and Balissur, in the Soonderbuns of Backergunge.

Nuddea Division
Mr. E. H. Lushington
(No. 161, dated the 13th April 1861).

27. The cultivation of cotton in these tracts is recommended as an experiment, to be supervised by an officer appointed by Government, but the Board cannot support the recommendation. Private enterprise may, they think, safely be left to raise such crops as these grants are best adapted for.

28. Cotton is grown in all the districts of this division, namely, Monghyr, Bhaugulpore, the Sonthal Pergunnahs, and Purneah, but to a small extent and for local use.

Bhaugulpore Division.
Mr. W. Le F. Robinson
(No. 20, dated 13th April 1861).

29. In Bhaugulpore, the cotton raised is of a poor quality, and its cultivation is not likely to be extended; in Monghyr the intervention of Government is considered necessary for the encouragement of the cultivation; while in Purneah the cotton produced is of an inferior quality and not sufficient for local consumption. The north of Purneah and the Morung contain tracts of land, where the cultivation of this article would succeed, if parties interested in the trade would originate a scheme to that end and give it a fair start. Without such co-operation, the construction of roads would involve a superfluous outlay of money. In fact, throughout the dry season the country can be traversed in all directions, while the rivers Koossee and Mohanuda afford additional facilities for transport by water.

I.
India.

30. In the Sonthal Pergunnahs, however, cotton is more extensively cultivated, but still only for local wants, as the Sonthals prefer their own strong homespun to the inferior cloths procurable in the bazaars. The rail running on two sides of the district and the number of roads leading from all directions to the line of rail, and perfectly passable during the dry weather, afford every facility for the conveyance of the cotton to any point that may be desired.

31. Mr. Robinson sees no chance of an increased crop of cotton during next year, unless more direct measures to that end are taken than have been suggested by the Supreme Government. In his opinion the people only require to know that it will yield as good a return as any other crop from the same land, if not a better, and that a constant demand in a near market will allow them to dispose of the produce readily, and the cultivation will be rapidly spreading more widely in this tract. Then the question arises, whether the consumers can afford to pay a price which will make cotton as profitable to the growers as the other crops which they are now raising.

32. With the present limited produce of cotton, Mr. Robinson is opposed to the construction and improvement of roads merely for a trade which does not exist; but he has no doubt that if agencies were established, good seed distributed, and a remunerative price given for the produce, the cultivation of cotton would be considerably improved and rapidly extended.

33. The Board have drawn the Commissioner's attention to the fact, that the Agricultural and Horticultural Society of Calcutta have offered to supply good seed to such parties as desire to have it.

34. Cotton for local consumption and for export to the plains is grown in the neighbourhood of Darjeeling, in Nepal, in Sikhim, in the Darjeeling territory, and in Bootan; i. e., in the valleys of the Nepal, Sikhim, Darjeeling, and Bootan hills, and in the Nepal, Morung, and Darjeeling Terais, and in the Bootan Dooars.

35. The quantity exported from the hills cannot be exactly stated, but it is estimated to be about a quarter of the quantity used in local manufactures.

36. The quantity of cotton grown annually in the Darjeeling Terai is estimated to be about 2,100 maunds, or, at 82 lbs. to the maund, 172,200 lbs., as will be seen from the following table:—

RETURN of COTTON grown in the Darjeeling Terai in 1859–60, as given by the Chowdries.

Mouzah.	Number of Acres in Cultivation. (Probable.)	Produce per Acre. (Average.)	Total Quantity.	Range of Prices for Uncleaned Cotton.	Total Amount. (Probable.)
				<i>Rupees.</i>	<i>Rupees.</i>
Paturghatta -	275	- -	800 maunds	3 to 6 per maund.	3,500
Hattighisa -	200	3 maunds	579 "	3 to 4 "	1,937
Baroghuria -	60	- -	200 "	3 to 5 "	600
Nakesurbari -	70	- -	200 "	3 to 4 "	600
Beparhatti -	65	- -	200 "	3 to 6 "	1,000
TOTAL -	670	3 maunds	1,979 maunds	Say 5.	7,637
In even numbers -	Total acres. 700	At 3 maunds per acre.	Total quantity. 2,100	At Rupees 5 per maund. (26 uncleaned.)	Total amount. 10,500

These figures are pronounced by Dr. Campbell to represent less than the quantity produced. Of the Terai produce, three-fourths at least are exported uncleaned, principally to "Kissengunge" and Raneegunge, in the Purneah district, and to Hurripore and Raigunge, in the Dinagepore district. In these places the cotton is cleaned, spun, and woven into coarse cloth, in which form it in part finds its way back to the Terai and hills.

37. The cloth manufactured at Ramgunge is of an excellent fabric, and it is largely used in the ceilings of houses, and also by the natives for clothing. It is represented to be more durable than the Manchester and Glasgow unbleached sheeting, with which it competes in that part of the country.

38. The quantity of cotton grown in the Purneah and Nepal Morungs and in Bootan, though stated to be considerable, cannot be estimated.

39. In England, length of staple mainly fixes the quality of cotton and regulates its price. But cotton varies greatly in durability, irrespectively of length of staple; and the cotton of the Sikhim, though shorter in staple, is pronounced to be better in quality than the cotton of Bengal, and to be well adapted for the English market.

40. The

40. The same high price of cotton prevailing at Calcutta and in the districts as at Liverpool, strikes at the root of the measures suggested by the Supreme Government for increasing the quantity for export. It would be of no avail to circulate the earliest intimation of the rise and fall of prices in England, or to expend money on improving the means of transport to the sea, so long as cotton, which is worth 6 *d.* per lb. at Dinagepoor, does not realize more at Liverpool. It is hopeless to look for cotton for England in this part of the country until the prices at home rise considerably, or the quantity produced here is in excess of the local demand.

Present Prices of Cleaned Cotton in *Calcutta*.

	Per Maund.	Per Pound.	
	<i>Rupees.</i>	<i>s. d.</i>	
Darjeeling - - - -	40	1 -	<i>N.B.</i> —To convert price per maund of 80 lbs. into price per lb. of English money, multiply by 3, thus:— <i>Rs.</i> 20 3 — 60 or 6 <i>d.</i> per lb.
Dinagepoor - - - -	18 to 20	- 6	
Kissengunge - - - -	18 to 19	- 6	
Calcutta - - - -	16	- 5	
Liverpool for middling. New Orleans superior to Bengal and equal to Surat - -	6 $\frac{1}{2}$ <i>d.</i> to 7 <i>d.</i>		

41. Messrs. Moseley, Hurst, & Co., honorary agents in Calcutta to the Cotton Supply Association, who were consulted by Dr. Campbell, say that, to the prices in Calcutta must be added a charge for baling, pressing, and shipping of about 12 annas per maund and (in calculating cost at Liverpool) of 4 per cent. for insurance, and of about $\frac{1}{2}$ *d.* per lb. for freight.

42. The following extract of a letter from Messrs. Moseley & Hurst to Dr. Campbell, gives some important information on the subject:—

“The advices lately received in Manchester from the markets which chiefly consume her production, China, Calcutta, Madras, Bombay, and the 26 States, have been, and will be, from various causes, so discouraging, that notwithstanding the prospect of a cessation of the American supply of cotton, the value of that article has actually declined, and is now for middling New Orleans about 7 *d.* per lb., or about the average price since 1857. The value of good Surat's cotton, corresponding to this, we believe to be about 5 *d.* to 5 $\frac{1}{2}$ *d.* per lb.; this same cotton is eagerly bought here by the Gloster Mills and native spinners at 16 rupees per maund, equal to nearly 5 *d.* per lb. on the spot. There is consequently no margin for shipment, and beyond a sample shipment of seven bales to Hamburg, we are not aware of any having gone to Europe from this side of India, which actually is at the present moment importing cotton from Madras, Bombay, and Rangoon for its own consumption.”

43. As likely to be conducive to the increased production of cotton with a view to export, Dr. Campbell points to the following sources:—

First. The introduction of better descriptions of cotton.

Second. The improved and extended cultivation of existing kinds.

Third. The extension of freehold tenure of land now granted in the Darjeeling hills to the Terai and other cotton-growing tracts.

Fourth. The introduction of English cotton fabrics of thick and heavy kinds to replace the local manufactures, and

Fifth. The improvement of roads, and, still more necessary, the construction of rough timber bridges over streams and nullahs, to ensure the means of communication during the rains.

44. A very successful experiment with the American cotton was made by Dr. Campbell in 1852, and, therefore, he proposes that foreign seed should be annually distributed in February among cultivators willing to try it, a cheap agency being employed to look after the purchase of the produce in the picking season.

45. In this division, the quantity of cotton grown is very limited. It is principally cultivated by the hill tribes in their jhooms on the hill-sides. The cotton is of the same quality as that produced by the hill tribes along the eastern frontier, the Kookies, Nagahs, Kassiahs, &c. The staple is short, hard, and strong, and, owing to the very small quantity brought to market, the price is very high.

Arracan Division.
Major G. Verner
(No. 34, dated 10th
April 1861).

46. Captain Verner states that the quantity of cotton produced in the province was greater formerly. Experiments made for introducing foreign seed into Ramree are represented to have failed almost always.

I.
India.

47. To facilitate the immediate increase of production, a quantity of good fresh seed should, in Major Verner's opinion, be supplied to persons who wish to cultivate the plant, and, to encourage the cultivation, they might be allowed rent-free tenure of such jungle and waste lands as is exclusively taken up for cotton only.

48. The province contains ample means of water communication.

Assam Division.
Captain H. Hopkinson
(No. 810, dated
12 April 1861).

49. This division is said to possess generally a soil and climate eminently adapted to the culture of cotton; but from want of proper roads and of conveyance, the staple has not been widely cultivated.

50. Captain Hopkinson strongly deprecates the inefficiency of the existing roads throughout the province, and the tardiness of postal communication.

Cuttack Division.
Mr. E. T. Trevor
(No. 989, dated 17
April 1861).

51. Cotton is grown in many pergunnahs of the district of Cuttack, mostly for local requirements, and, to a small extent, for the Calcutta market, whither it is transported upon bullocks. With increased facilities for irrigation and communication, the cultivation might, it is represented, be extended 50 or 60 fold.

52. The quantity of cotton produced in Pooree is so small that the supply falls far short of the demand. The small quantity that is raised is used in the district, and even if the cultivation and produce were enhanced, the expense attending exportation would swallow up the profits.

53. In Balasore, also, the produce is consumed by the producers, and the supply is so much within the demand, that the article is imported from Sumbulpore.

54. Experiments made with good seed under European supervision prove that the soil of Balasore is not adapted at all to the cultivation of cotton.

55. The district of this division which seems to promise a very fine field for this cultivation, is Sumbulpore. Cotton grows largely throughout the tract. The country on the right bank of the river, from and including the Bara Pahar to Soupur, is more productive than the country on the left bank from Padampore to Rarakhole in the ratio of two to one. Chunderpore, Saragon, Surswa, and the Chateesgurh also give a very large yield of the staple.

56. The cultivation can be pushed much further, if advantage is taken of the thousands of acres of waste land, well adapted to the plant, and the productive powers of the soil is increased by the appliances of agricultural skill.

57. Merchants from Cuttack, Jhajpore, and Balasore visit the district in October and buy up the produce. During this year cotton is cheap, selling at Chunderpore at 21 seers (of 80 tolas) for the rupee. This quantity is then cleaned for three or four annas; and the produce is seven seers of cleaned cotton for Rs. 1. 4 a. Uncleaned cotton sold during the past year at 17½ seers for the rupee.

58. About half or three-fourths of the cotton raised in Sumbulpore is exported to Cuttack, Balasore, and Jhajpore.

59. For Cuttack, the cotton is conveyed on carts and bullocks to Binka and Soupur, whence it is carried down in boats to Cuttack.

60. The cotton for Jhajpore and Balasore is carried on bullocks from Chunderpore, *via* the town of Sumbulpore, and the old road to Cuttack, striking off the road at Riapal and proceeding through Talchar towards the Brahminee River.

61. The roads are hardly adapted for carts, but a very little expenditure would make them tolerable fair-weather roads.

62. Since Sumbulpore has come under British rule, the produce of cotton is stated to have been more than doubled, and much further extension of the cultivation may reasonably be expected, if the roads throughout the tract were improved and increased.

63. Mr. Trevor reports that in the single tributary mehal of Killa Ungool, 2,000 beegahs of land are yearly cultivated with cotton; and as the produce is more than is required for local consumption, the surplus is sent to Cuttack on carts going thither for salt.

Burdwan Division.
Mr. G. A. C. Plowden
(No. 449, dated
9 April 1861).

64. The only district for which Mr. Plowden has been able to submit any information is Hooghly. Here, it appears only a few beegahs near Goghat, in the subdivision of Jehanabad, are cultivated with cotton, which is used up on the spot.

65. No returns have been received from the Commissioners of Patna and Tenasserim.

66. From a review of this information, above set forth, it is satisfactorily established, that large tracts of land, suited to the cultivation of cotton, are available in almost every district under the Bengal Government.

67. The Board would point to the three districts of the Chittagong division, to the province of Assam, to the Darjeeling territory, to the districts of Sumbulpore and Singbhoon in the Chota Nagpore division, and to the Soonderbuns, as tracts of country where private enterprise might, with the best chances of success, be brought to bear on raising cotton for the English market.

68. In some of these districts, the facilities of transport by water are very great, and much good may be done by giving publicity to the information now furnished by the local Commissioners.

69. It will be seen that the indigenous cultivation now carried on, is almost entirely intended to meet local wants. Hence, whatever cotton is available for export is very highly priced. The Board concur with Dr. Campbell, the Superintendent of Darjeeling, that the rise of price in England must be the first step towards increasing the produce of cotton for export in this country.

70. The Board fully agree in what has been urged as regards the inadvisability of Government interference with private capitalists or speculators. The future development of the trade must be left to the exertions of private enterprise; although it would perhaps subserve the objects of the policy initiated by his Excellency the Governor General, if an early and liberal settlement be at once come to of the long-pending question of the tenure on which waste lands are to be obtained by European settlers.

I have, &c.

Officiating Secretary to the Board of Revenue.

Enclosure 3, in No. 19.

From *J. D. Gordon, Esq.*, Junior Secretary to the Government of Bengal, to the Officiating Secretary to the Board of Revenue.

Sir,

Lieut.-Governor's Camp, Parisnath,
17 June 1861 (No. 320, P.)

I AM directed to acknowledge the receipt of your letter, No. 315, dated the 10th ultimo, relative to the probable capabilities of the several divisions of the Lower Provinces for the production of cotton, and to state, in reply, that the report in question will be published and communicated specially to the Government of India and to Mr. Paterson Saunders.

2. Of the 11 divisions under this Government, it appears that in five, namely, Rajshahye, Nuddea, Chittagong, Arracan, and Burdwan, no cotton worth mentioning is grown in the cultivated plains, even for local consumption. In five, namely, Bhaugulpore, Dacca, Assam, Chota Nagpore, and Cuttack, some cotton is grown in the plains for local use; and from parts of Chota Nagpore, which is all a table land, and of Cuttack, though probably from the hilly or table land districts only, some little cotton is exported to other parts. Patna is omitted in the Board's Report. It may, however, the Lieutenant-Governor believes, be classed safely amongst the five last-mentioned divisions.

3. The present Report concerning Dacca will appear strange to those who know what the production of cotton was in times past for century after century in that quarter. It is not to be taken for granted that the experiment of cultivating American cotton in Dacca, alluded to by the Board, was so well conducted as to be conclusive. A paper lately published in the Agricultural and Horticultural Society's journal, leads to the impression that such cotton would grow well there, though the question of whether the crop would pay as well as other crops, even under successful cultivation, remains unsolved at present prices.

4. On the whole, the Lieutenant-Governor remarks, in respect of the populated plains and table land under this Government, the result is, that beyond any doubt an indefinite rise of price would draw from them an unlimited supply of Indian short staple cotton, whilst none can be expected from them for export at or about present prices. Actual experience warrants nothing affirmative or negative in respect to foreign varieties of long staple cotton positively. But, in regard to some sorts of long staple cotton, there seems fair reason to believe that this too is mainly a question of price.

5. How much the price must rise before the great tracts of country above-named would supply any considerable quantity of any sort of cotton for export, and what new cotton lands in India and elsewhere would be stimulated into production, by a gradual rise of prices before these tracts, are questions towards the solution of which the present information gives no means of advancing.

6. Of the tracts above mentioned, it is natural to expect supplies in exportable quantities first from those which now send some cotton to be consumed beyond their own limits. These are, Palamow in Chota Nagpore, and Sumbulpore and Ungool in the Cuttack division; all being part of the table land of Central India. As cotton to a certain extent is exported from these places now, with no roads to facilitate the trade, it is certain that roads would increase the exportable produce.

I.
India.

7. In regard to Palamow, an extract of this Report will be sent to the department of Public Works, in order that at least all that Captain Dalton, the commissioner, recommends may be done as soon as possible. The road from Chattra to Chumparan will be made into a good cart road, and Captain Dalton will be consulted as to what can be done for improving the lines of communication between Chattra and the several producing tracts.

8. Mr. Trevor, the commissioner of Cuttack, will also be consulted from the Public Works Department, as to what can be done for the communications with Ungool and Sumbulpore. Nothing short of good cart roads will be of material use. The Mahanuddy is navigable for several months of the year; but what use, if any, is made or could be made of this fine stream in the transport of cotton is not stated.

9. One promising place in which to create a production of exportable cotton is stated to be Singbhoom in Chota Nagpore. But, unless there is something unexplained regarding the reported prices of cleaned cotton at Sumbulpore and Singbhoom, the latter place could not compete with the former under any circumstances. If cleaned country cotton cannot now be sold on the spot for less than 6*d.* a pound, with 123 miles of road and 121 miles of railway to the port, many more promising places of production exist. Nevertheless, a cart road from Singbhoom to the railway is, the Lieutenant-Governor considers, a necessity. This road will pass by Poorooliah.

10. It is a favourable feature in regard to all the places last mentioned, that the surface of the country is such that a good metalled road can be constructed anywhere at a moderate cost.

11. In the opinion of the Lieutenant-Governor there can be no reason to doubt that the production and export of cotton in the hill country of Chittagong, called from of old the cotton mehals, can be stimulated to a very great extent; but cotton, like other things, requires men as well as land for its cultivation and preparation, and the state of these hills and of the hills bordering Arracan on the south, and Sylhet and Assam on the north, is such as to make any sudden increase of large amount in the export of cotton from them impracticable.

12. The circumstances of the hill tracts in the Chittagong division are exceptional, and have induced the Lieutenant-Governor to make a special proposal regarding them to the Government of India, the result of which will in due course be communicated to the Board.

I have, &c.

J. D. Gordon,

Junior Secretary to the Government of Bengal.

Enclosure 4, in No. 19.

From *Rivers Thompson*, Esq., Officiating Secretary to the Board of Revenue, to the Secretary to the Government of Bengal—(No. 377, dated the 31st May 1861.)

Sir,

IN continuation of my letter No. 315, dated the 18th instant, I am directed by the Board of Revenue to submit a copy of a Report from the Commissioner of Patna, on the prospects of cotton cultivation in the districts of his division. It will be seen, that the Commissioner has little expectation of an immediate increase to any considerable extent in the cotton supply from the Patna Division generally; but with a good system of irrigation, there is reason to believe, from the fitness of the soil to the cultivation, that the supply from Shahabad would not be inconsiderable. Such results, however, cannot be looked for in the present season.

2. The Commissioner remarks that it might be advantageous to adopt the plan recommended by the collector of Tirhoot, that all district collectors should be furnished with full information regarding the quality of cotton required, and of the average price that will be paid for it in Calcutta. He suggests also that the proposals of Mr. Bingham, of Chynepore, in Shahabad, be adopted, and that a good supply of the long stapled varieties of seed (from acclimated American or Egyptian seed), should be distributed through the collectors; and that a manual which Mr. Bingham has volunteered to prepare, with a view of explaining the best mode for the successful cultivation of the plant, should be translated into Hindee, and circulated among the people.

3. All these propositions have the Board's approval. The support of Government which is solicited to the preparation and circulation of a manual such as that described by the Commissioner of Patna, will lead, it may be hoped, to good results, and show the people among whom it is distributed the interest of Government in the subject, without exercising any undue official interference. At the same time, I am desired to say, that the Board are aware that the Agricultural and Horticultural Society have offered a prize

of 1,000 rupees and the gold medal of the Cotton Supply Association for the best essay on the culture of cotton.

4. With the above Report, the Board have received a communication through the Commissioner of Chota Nagpore from Captain Moncrieff, Junior Assistant Commissioner, Palamow, who states that cotton is very extensively cultivated in the district, and that a considerable quantity is also exported to other places.

5. A copy of this Report is also enclosed.

6. For the supply of seed of the best foreign kinds, the Board suggest that Government should enter into, and place all collectors in communication with the above-named society, which is in close correspondence with the Cotton Supply Association of Manchester, and has among its directors a Standing Cotton Committee, capable of giving valuable assistance to district officials in furthering the objects of Government. It would be well too, the Board think, were Mr. Paterson Saunders directed to communicate direct with the same Society.

I.
India.

From *H. D. H. Fergusson, Esq.*, Commissioner of the Patna Division, to the Secretary to the Board of Revenue (No. 10, dated the 9th May 1861.)

Sir,

I HAVE now the honour to reply to the Board's Circular Memorandum No. 13 B., dated 12th March last, forwarding for report a communication from Government regarding the supply of Indian cotton to England.

2. I circulated copy of the correspondence, and invited the opinion of every officer and European gentleman in this division likely to give information of importance; and the result is as follows:—

3. *Behar*.—Mr. Furrell, Deputy Collector in charge of the collectorate at Gya, states that “the cotton cultivation of Behar is not nearly sufficient to supply the requirements of the district itself, and a large proportion of the cotton used is consequently imported.

“As this has been the case, I believe, from time immemorial, and certainly since the commencement of the present century, it can scarcely be doubted that the cause of the deficiency is of a constant nature; while the fact that Behar is a considerable weaving district, renders it improbable that that cause is either over-rated, or easily removeable.

“The experimental cultivation of cotton distributed last year to different landowners in the district was attended, for the most part, with but indifferent success; and, though this failure was attributable in part to the inferior quality of the seed, and the unfavourable nature of the season, there is every reason to believe that the soil of the country is generally ill-adapted to this crop, and the cultivation of other sorts of produce far more profitable.

“I am of opinion that the cultivation of cotton could not be extended here unless large sums were first laid out in the construction of reservoirs and other means of irrigation; even then a long period must elapse before any great change could be effected, and the result would not, I fear, be proportionate to the outlay.

“Under these circumstances, the mere facilitation of the means of transit, however desirable on general grounds, would obviously be useless as regards the present amount of the cotton crop, and certainly futile in stimulating to further production.”

4. *Chumparun*.—Mr. Robinson, the magistrate and collector of Chumparun, reports as follows:—

“There is no great quantity of cotton grown in the Chumparun district. I do not think there is any export. When cotton is grown, it is for home manufacture and use.

“The soil best suited for cotton is to be found in the north and north-west of the district; and I imagine any quantity might be grown in the valleys and low lands adjoining the Terai and the Ramnugger forests.

“It is not cultivated generally, because the crop exhausts the land a great deal, because the cultivation is attended with a great deal of trouble, and because there is no particular demand for it.

“The ryots have no abstract objection to growing cotton. If any one will make it worth their while, they will readily undertake the cultivation; but while, as at present, they get equal profits from crops which do not demand half the labour that cotton does, it is unreasonable to suppose that they will grow cotton to any great extent. The demand would, I apprehend, at once produce the supply. Those interested in the cotton trade should make the demand.

“To increase the growth of cotton in Chumparun, I should recommend that Government intimated to those interested in the cotton trade, that cotton can be grown in the district; that it is grown to some extent already; that there are very tolerable roads; and that there are two navigable rivers in the district. I would give information regarding the sorts of cotton at present produced, if required.”

I.
India.

5. *Patna*.—The Collector of Patna, Mr. Wake, gives his opinion in the following words :—

“First.—There is not at present any cotton grown in the Patna district with a view to sale; the Pergunnah Gyaspore produces annually some 400 maunds. But the growers convert it into thread themselves.

“Secondly.—That parts of the district are capable of the cultivation is evident from the fact that, previous to 1835, the Pergunnah above mentioned produced annually and brought to market about 2,000 maunds, but a great inundation occurring in that year, the cultivation in any quantity has never since been attempted.

“Thirdly.—Large quantities of the article being yearly brought to the Patna market from Mirzapore and other districts, it is sold at a rate which renders it not worth the while of the former growers to resume its cultivation.

“Fourthly.—Were sufficient temptation held out the former amount would probably be produced; but from what I hear, there is no prospect of this ever becoming a cotton growing district.

“Fifthly.—The seed sent on the 27th July 1860 with your letter No. 1Ct. of that date was distributed amongst the principal zemindars, of whom three have returned answers that it will not grow on their land, and the rest have not as yet made any reply. I have to-day issued orders for their being called on for a report, and will acquaint you with the result; though from what I hear I have no hope that it will be a favourable one.”

6. *Sarun*.—Mr. Rose, the collector of Sarun, observes as follows :—

“The quantity of cotton now grown in the Sarun district is so small as to be insufficient for supplying the local demand; and large quantities have consequently to be imported from other places.

“I do not see how the quantity at present grown can be increased; but have no doubt, that in the event of a greater demand occurring, many private capitalists, who are now engaged in the indigo trade, would be induced to cultivate cotton; and that the quantity produced may thus ultimately be largely augmented.

“The plant is sown here along with Indian corn, pulse, &c.; and consequently does not thrive so well as if planted alone. But if this were done, and the cultivation more carefully attended to, the crop obtained would be healthier, and more abundant.

“I have made a reference to some of the European landowners and indigo planters in this district on the subject; but Mr. Stalkart, of Setulpore factory, is the only one who has as yet replied, and he remarks as follows:—“Government having resolved not to interfere, or attempt to stimulate the cultivation directly or indirectly, I see no possible means by which the cultivation of cotton can be increased. I see no probability of Europeans successfully growing cotton, as the crop would be stolen from the fields, especially in this district of Sarun.”

“I should have replied sooner, had I not waited in the expectation of hearing from some other planters.”

7. *Tirhoot*.—Mr. Bruce Lane, the Collector of Tirhoot, states, that “Cotton is not grown in the Tirhoot District in any quantity; but the cultivators of high irrigated lands in various parts of the district, produce a little merely to supply their own wants. There never has been any effort made to open an export trade in this article by which the cultivators of the soil might have been induced to undertake its production; but the zemindars to whom I wrote have generally expressed their readiness to encourage this by any means in their power. If they say so, because they perceive that their own advantage would ultimately result, I think that in Tirhoot there would be a fair prospect of a great increase to the cotton crop, but an increase in its cultivation from a desire only to gratify the Government being unnatural, would certainly not be permanent or beneficial. I observe also that such a course is specially deprecated in the Government order calling for this report.

“In that Government order the only legitimate means of encouraging the growth of cotton have been so distinctly laid down, that there is little left for me to suggest. I can only observe that no time should be lost in forwarding to the district collectors, for publication throughout their jurisdiction, full information regarding the quality required, and the price which would be paid for it, either on the spot, or at some central dépôt. Tirhoot is, to a large extent, well supplied with good roads; and there is no doubt that, when the profit to be derived from cultivating cotton became known throughout the district, the producer and capitalist would lose little time in coming to an understanding with each other. Further than this I do not see what Government officers can legitimately do in the matter.

“I would propose, therefore, that the Chamber of Commerce, as the body most interested, be requested to supply each Collector with samples of the various kinds of cotton in demand in the home market, with details of price, and any other particulars deemed useful. The samples should be in some quantity; so as to allow of a wide distribution. And in the event of any commercial gentlemen visiting the districts they could place themselves in communication with the Collector. In any such case I for Tirhoot would give them the very best assistance in my power. It is possible also that the manager of the Durbhungah estates might be able to give very material help.”

8. *Shahabad*.—Mr. Bayley, magistrate of Shahabad, reports as follows:—

“I have been in communication with Mr. Bingham and others on the subject of increasing the supply of cotton, and the suggestions I have to offer are but few.

“In answer to the questions whether cotton is now grown in the district and whether there is a possibility of increasing the cultivation, I cannot do better than offer the following extract from Mr. Bingham’s report, forwarded to the Collector on the 1st August 1860. He reports that ‘the plant is cultivated in this district, in some places extensively so; there are very few villages which have the proper kind of soil, a light friable darkish vegetable soil, in which a few beegahs are not cultivated, and as the district contains 4,400 square miles, and nearly double that number of villages, allowing each village to cultivate only one acre, which is very far below the average, we should have 8,800 acres, or at 100 lb. of clean cotton per acre, 8,80,000 lbs. of cotton per annum, produced in Shahabad.’

“This is Mr. Bingham’s estimate, necessarily somewhat vague, and I think perhaps somewhat too large; as, from what I have seen, cotton does not seem to be grown in the interior of the district at all to the same extent as it is in the south.

“As to the possibility of increasing the cultivation, Mr. Bingham writes: ‘As for the extent of land which might be devoted to cotton, and probably would be so, when once the article was known to be a staple, and when irrigation could be commanded at will, it is difficult to say; but as Shahabad contains 2,818,000 acres, I should say that at least one-twentieth would be fitted for the crop, which would give close upon 1,41,000 acres. Of course the attainment of this result would be gradual, and a native cultivation only extends very gradually indeed.’

“I have given these two answers from Mr. Bingham’s report, as that gentleman, besides making experiments in cotton himself, has been at great pains to introduce it more widely in Cheynepore, and to improve its cultivation; and because he is without question the best authority on the subject in these parts.

“For the immediate requirements of Government, he proposes that a good supply of the long stapled varieties of seed from exported or acclimated American or Egyptian seed (which do not require to be sown till July) should be distributed through the Collector to the principal zemindars, with an intimation that Government is anxious to extend its cultivation; and that, at the same time, a manual in the vernacular Hindee, setting forward the mode of planting and the advantages of the crop, should be distributed with the seed. He would undertake to draw up the manual in English, and suggests that Mr. Zeeman might undertake the translation. I do not think such official distribution would in any way interfere with private enterprise, or would be at all beyond the legitimate province of the Government; and though the results might not be very large, still there would be sure to be some few acres more brought under cultivation than without such an impetus would be the case.

“As a further means of improving the communications, Mr. Bingham wishes me to carry out at once a design I had formed when at Bhabooah in the cold weather (and which I intended to submit in this year’s ferry fund estimates) of cutting a fair weather road from Hotta to Chukkie whence there is a road to Mirzapore, and thus shortening the route for the cotton carts from Central India by some 30 miles. The length of road to be cut between the two places is some nine miles; of which five are in this district and four in Mirzapore. I have written to the magistrate of Mirzapore, asking him to undertake his four miles; and as there will be a surplus from the ferry fund works this year, I propose requesting Mr. Bingham to begin the road at once.

“I would also suggest that in those gaols to which gardens are attached, experiments might, to a small extent, be carried on, not only as to the cultivation of cotton, but more particularly in cleaning it; which seems to be the principal cause of failure with Indian cotton, and the people might thus by degrees be familiarised with improved machinery.

“These are all the temporary expedients I can propose. The European settlers, whose interest lies in that direction, and who are likely to know best what is required, are unanimous in declaring as requisite for permanent increase, improvement in land tenure, a contract law and improved and multiplied civil courts; and in these districts irrigation and canals. All these things are said to be under the consideration of Government; but there is none which is more urgently required, which will more thoroughly repay the money expended on it, or which will be a more decided boon to all classes in the district, than the completion of Captain Dickens’ scheme for the irrigation of Shahabad.

9. *Mr. Davies, of Rhotas, in Shahabad*.—Mr. C. Davies, a farmer residing at Rhotas in Shahabad, who is a very intelligent gentleman, and who has given much attention to the important subject, has favoured me with his opinion in the following words:—

“Cotton of the variety vernacularly called Rarhia is grown in Shahabad, though not to any great extent, as it is never exported, being consumed on the spot. It is the product of irrigation, and ceases to yield after the first regular fall of rain. The staple of it is in every way superior to that of the cotton of the North-west, and sells at a higher rate. The value of the two products here is at present $2\frac{1}{2}$ seers per rupee of the up-country cotton and $1\frac{3}{4}$ seer per rupee of the Rarhia. Irrigation being expensive, and the means of the Shahabad agriculturist very limited, there appears to be very little chance of bringing about any material increase of this kind of cotton within any short period. A very small quantity of a variety of cotton called Raotā is grown on the table lands. It is sown in the rains, and under favourable circumstances stands on the ground two years. This variety is cultured somewhat extensively in Palamow, whence it finds its way to parts of Behar and the vicinity of Sasseram. The fibre of even this variety is regarded as superior to that of the cotton of the North-west. In this district it would not be easy to bring about

I.
India.

any greatly increased production of cotton soon, as the introduction and general adoption of some good variety which springs up in the rains would have to be effected previously. Apart from all considerations, concerning facilities of conveyance, I see no better means for bringing about speedily an increased supply of cotton than the opportune intercourse of intelligent commercial agents with the agricultural and trading communities generally. Much could be said about what could or could not be effected in the course of time; but, as observed in the Resolution, no measure would meet the object in view unless it told on the production of cotton during the next season, and on the means of getting that season's crop to port."

10. *Mr. Bingham, of Chynepore, in Shahabad.*—As I was aware that Mr. Bingham of Chynepore, in Shahabad, had given much attention to the cultivation of cotton, I begged him to favour me with his opinion on the subject. In reply, Mr. Bingham writes as follows:—

"I am glad to see the Government at length taking an interest in a staple which is indigenous to India, and which only wants fair play and ordinary fostering to rapidly supersede American cotton (which is there an exotic) in the English market; but much requires to be done at once by Government to enable the staple to take that lead in Indian farming which it is undoubtedly able to do.

"Cotton is grown in Shahabad already in considerable quantities, and I send you enclosed a specimen* grown by myself from New Orleans seed (this being the second year of the plant's bearing), and also a specimen of Chinese Nankin cotton grown by me from plants of the third year bearing; both of which, I think, you will find not unfavourable specimens of what can be done in this district; and they have been grown on land which has for years been devoted to indigo, and therefore not on first rate soil, while from various causes they have not had that attention paid to their culture which they ought to have had.

"You will doubtless know that the Dessee cotton only yields for one season, and then dies away. The same is the case with all the varieties in the cotton regions of North America, while I have proved that cotton grown in this country from New Orleans and Sea Island seed is at least a biennial plant; nay, I have had some few plants for three years, and for aught I see at present they will last three years more, while in my garden I have had some plants of Chinese Nankin for four years; they having been sown in 1856, and their yield and health is as good as ever; so that this fact alone is a favourable result, and one worthy of notice; and shows how valuable the culture may become. The plants each year only require to be cut down in the beginning of the rains, and well hoed to open their roots and keep them clear of weeds, and with hoeing and irrigation occasionally, as required, in the hot weather. The second year's crop is, I believe, both more abundant, and of better quality than the first.

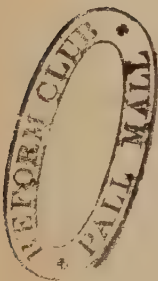
"A large cultivation and trade in cotton, to equal the demands of England, cannot, however, be got up in a day; and fifteen months is but a short time for the purpose. I consider, however, that Shahabad is perhaps better situated than any other part of Bengal or Behar in this respect, owing to the large quantity of forfeited land (owing to the rebellion) at the disposal of Government. It is now an admitted fact that cotton cultivation (that is cotton of a staple suited for the English market), must mainly be introduced by European energy, honesty, and skill; the native cultivation can only very distantly follow their lead. Let the authorities then at once reverse their traditional policy, and meet the matter boldly in the face by offering inducements for European settlement on these confiscated lands, giving with them a tenure not liable to be interfered with by Collectors; in fact a tenure in fee simple, such as may be obtained in all other countries under the British Crown, which will at once encourage the outlay of capital, at the same time benefiting the country, increasing the great cotton interest, and indirectly but certainly benefiting and increasing the Government revenues. Let the Government keep all the confiscated estates fitted for cotton cultivation on the sursory tenure until they were taken up by Europeans at an upset price, and the result would soon be seen, if that upset price be a fair one. European capital will not risk itself on present tenures in this country, where it has no security for its outlay, and where, for various causes, it has so many difficulties to contend with. Next to a secure tenure, cheap and speedy justice, with a sharp punishment for perjury, is an absolute necessity; and must by some means or other be provided for the interior.

"I have suggested to Mr. Bayley, and now repeat it, that much might be done at once if a large quantity of imported or acclimated New Orleans or Egyptian seed should be *officially* distributed amongst the principal landholders of the district, with a request that they would do their best to introduce its cultivation, perhaps promising a prize for the largest quantity produced from a beegah, combined with the best quality, and promising an honorary title to the man who should produce the largest quantity and most encourage its cultivation in his estates, would do wonders; at the same time as the seed is thus distributed, a number of cheap vernacular manuals, showing the best mode of cultivation in the district, and other particulars, should be given gratis by Government.

"Good roads throughout the interior are absolutely necessary; and the rivers and streams of the main lines should be bridged in a cheap and serviceable American fashion; so as to get as much done with as little outlay as possible. I have also recommended to Mr. Bayley to complete the road from Hotta to Chukkie, and thus join our system with the Mirzapore Lines. This would complete the short cut for the heavy cotton traffic from Mirzapore to join the Grand Trunk Road; saving some thousands of carts annually some forty or fifty miles distance. I would also beg to refer you to a recommendation from

* It does not seem necessary for me to forward these specimens, which, however, are very satisfactory.

H. D. H. Fergusson,
Commissioner.



from me to your predecessor, E. A. Samuells, Esq., when Commissioner of Patna, for a road from Sasseram across the hills to Bidjeyghur, whence I believe there is a road joining the Great Deccan Road. The road by the route I recommend would not be a difficult one, and would be of incalculable benefit, not only in opening out a new and near line for the great cotton trade of Central India, but also opening out the interior of the Kymore Range.

"Next to roads, but perhaps of even more importance, is irrigation, as without irrigation, (except on low moist lands) cotton yields but a poor crop, both in staple and quality, and will not pay, consequently irrigation is indispensable. While Shahabad, with one of the finest watersheds in the world, is singularly deficient. Something might be done at once, and that easily by damming up a few of the hill gorges where they are narrow, leaving the Zemindars to cut their own irrigation channels. The Chynepore and Sasseram Tanks might be used with little expense as reservoirs, and pay a good revenue to Government upon the outlay; while they would serve as an experiment, which would be valuable as data for an extension of the project. You will see this question mooted in the pamphlet on irrigation which I had the pleasure to forward to you some time ago. The frightful drought of this season, which is rapidly rendering it impossible to keep any crop alive, and which is fast drying up all the wells and usual means of irrigation, renders this a matter of most pressing importance.

"In conclusion, I had hoped to have set the example of successful cotton growing upon my own estates this year, and had taken measures for the purpose. But the late letter, Roobookaries, and Ishtihar, of the Collector of Shahabad, showing me that I have no tenure nor no right stronger than a rope of sand in them, and which correspondence I had the honour to forward to you with my letter* of the 25th instant, made me pause by showing me the folly of my hopes; and so long as my tenure is so uncertain I can do nothing."

* Orders have been passed by me which leave Mr. Bingham nothing to complain of.
H. D. H. Fergusson,
Commissioner.

11. *General Remarks.*—I fear that there is no hope of an *immediate* increase, to any considerable extent, in the cotton supply from the Patna Division generally. With a good system of irrigation, the supply from Shahabad would probably be considerable. But although I hope we may eventually obtain irrigation according to Captain Dickens' comprehensive scheme, we cannot obtain it at once; and, therefore, it cannot "tell on the production of cotton during the next season;" which is the object of the present inquiry and correspondence.

12. It might be advantageous to adopt the plan recommended by the Collector of Tirhoot, and forward as soon as possible to all district Collectors full information regarding the quality of cotton required, and the average price that will be paid for it in Calcutta.

13. I also recommend for adoption the proposals of Mr. Bingham of Shahabad, to the effect that "a good supply of the long stapled varieties of seed (from acclimated American or Egyptian seed), should be distributed through the Collectors." And further, that a Manual in Hindee be distributed along with the seed, giving full information regarding mode of cultivation and the demand for cotton in England and elsewhere.

14. With respect to the important subject of facilitating existing means of communication, Mr. Bingham and the magistrate of Shahabad recommend, *first*, a fair-weather road from Hottah to Chukkie, whence there is a road to Mirzapore; and *secondly*, a road from Sasseram across the hills to Bidjeyghur, whence there is a road joining the Great Deccan Road.

15. Respecting both these lines of communication, I have addressed the magistrate in order to obtain further information; when, if advisable, the Government shall be moved in the matter.

From Captain E. T. Dalton, Commissioner of Chota Nagpore, to Rivers Thompson, Esq., Officiating Secretary to the Board of Revenue, Lower Provinces, (No. 560, dated the 11th May 1861).

Sir,

IN continuation of my letter, No. 393, of the 9th ultimo, I have the honour to submit a Report* by Captain Moncrieff, Third Class Deputy Commissioner in charge of Palamow, containing further information on its capabilities as a cotton-growing district.

* No. 225, dated 17th ultimo.

From Captain A. P. S. Moncrieff, Junior Assistant Commissioner, Palamow Sub-Division, to Captain J. S. Davies, Senior Assistant Commissioner, Lohurduggah Division, (No. 225, dated the 17th April 1861).

Sir,

IN reply to your Office Memorandum, No. 388, of the 23d ultimo, with enclosures as per margin, I have the honour to state that cotton is very extensively cultivated in this district in proper time to other crops; a considerable quantity is also exported to other districts.

Letter No. 256A, 6 March 1861, from the Under Secretary of Government of Bengal.

I.
India.

2. The method adopted here for growing cotton, is to select a piece of jungle land, and generally where the trees are not very strong; these trees are cut down at about a foot from the ground, and their branches and stems spread over the land; they are then burnt. The land is afterwards ploughed once and the cotton sowed broad-cast over the burnt wood, and ashes thus serve as a kind of manure, but the land chosen for cotton is generally of the poorest and most stony description. I understand from the people that the reason poor land is generally selected, is that good land is required for more valuable crops, and that cotton in this district thrives well anywhere. The fibre of cotton grown here is considered, I believe, very inferior, but if the seed were of a better description, and if more pains were taken with its cultivation, there is no reason why it should not be as good as cotton grown elsewhere.

3. The great drawback to cultivation of any sort in the Palamow district, is the scantiness of population; there are at present very extensive tracts of lands well watered, and if one may judge from the luxuriance of the jungle, very fertile, which require nothing but labour to make them productive. Labour to a large amount is to be had in the neighbouring districts of Chota Nagpore, and I should think no person settling here with capital would find much difficulty on that head.

4. Palamow extends to within twelve miles of the Grand Trunk Road; there are no roads, however, in the district itself fit for hackeries, and from the hilly nature of the land and the number of rivers, roads regularly bridged and metalled would be very expensive. The country is intersected in every direction by beaten tracks for pack bullocks, which in large droves convey all merchandise from one port to the other, and during the rains the Koel River, which falls into the Soane, is navigable for small vessels.

5. With reference to increasing the production of cotton, the time for sowing the cotton is fast approaching; and if any mercantile firm were to send agents into this district and make advances to the Ryots, I have no doubt they might be induced to grow a much greater quantity than they hitherto have done. I understand that some 2,000 maunds are annually sold and taken out of the district at about four rupees, more or less the maund, and an increase of price would tend greatly to increase the cultivation.

6. As to improving the means for bringing the produce to port, I do not think any thing in that way could be effected this season. The roads, such as they are, are as good as would be for pack bullocks, and to render them fit for hackeries where the land is low, extensive embankments would be necessary; where the ground is gravelly, it is a good deal cut up by ravines and would require a number of drain bridges. Even if all that was effected the people at first would still stick to the old plan of the pack bullocks.

7. Should, however, Government consider the making of roads advisable, a road running between Shahpore and Sherghotty, a distance of about 60 miles, would be a great improvement, and tend very much to open out the resources of the country. If such is considered necessary, I shall be happy to go over the ground and give a rough plan and estimate for making a fair-weather road through this district.

Enclosure 5, in No. 19.

RESOLUTION, No. 1806, dated 26 July 1861.

BETTER roads seem to be a great want in Shahabad and Palamow. The Government will gladly aid any well-considered plan for improving any roads that are likely to be of use in extending the cultivation of or trade in cotton, and when projects for the purpose cannot be carried out from local resources, or from the funds allotted in the Budget Estimate, his Excellency in Council will be prepared to take into consideration in the Public Works Department applications for special grants.

Enclosure 6, in No. 19.

From *W. Grey*, Esq., Secretary to the Government of India, to *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal, No. 1307, dated the 3d July 1861.

I AM directed to acknowledge the receipt of your letter, No. 3216, dated the 17th ultimo, forwarding, with remarks, a copy of a report by the Board of Revenue, on the capability of the several divisions of the Lower Provinces for the production of cotton, and of the Lieutenant Governor's orders thereon.

2. The Governor General in Council concurs with the Lieutenant Governor in thinking that supplies of cotton, in exportable quantities, are to be looked for first from those tracts which now send some cotton to be consumed beyond their own limits, and approves of the measures which in this view his Honor proposes to undertake for improving the communications in the divisions of Chota Nagpore and Cuttack, from the table lands of which cotton is already exported to a limited extent.

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3. Having regard to the special circumstances of the hill tracts of Chittagong represented by the Lieutenant Governor, his Excellency in Council thinks that the establishment there of factories for buying, cleaning, and screwing cotton, such as is suitable to the English market, deserves the support of Government, and he directs me to convey his approval to the proposal of the Lieutenant Governor to consult the local authorities on the subject. But his Excellency in Council would greatly prefer that the establishment of such factories should be undertaken by private enterprise, aided by any grants of land, special measures of police, or other facilities which Government can furnish, rather than that it should be attempted directly by Government or on Government account.

Enclosure 7, in No. 19.

From Messrs. *Mosley and Hurst*, Agents to the Cotton Supply Association, to *W. Grey*, Esq., Secretary to the Government of India, dated 20 June 1861.

WE take the liberty to enclose to you, for the perusal of his Excellency the Governor General, copy of a communication received from the Manchester Cotton Supply Association, to which, embracing as it does a question of the most vital importance to this as well as the mother country, we would respectfully beg to draw the earnest attention of Her Majesty's Government in India.

We likewise hand you a copy of a petition from the cotton trade at home to the House of Commons, with reference to the supply of cotton from this country.

From *G. R. Heywood*, Esq., Secretary, Cotton Supply Association, to Messrs. *Mosley and Hurst*, Agents to the Cotton Supply Association, Calcutta; dated Manchester, 15 May 1861.

THE committee of this Association in acknowledging the receipt of your respective favours of the 2d and 4th and 10th ultimo, desire me to convey to you their best thanks for the deep interest you have taken in the important question now uppermost in all minds as to how the future supply of cotton is to be ensured to this country.

2. And especially they request that you will make known to his Excellency the Governor General of India, their sense of that enlightened policy which has dictated the publication of the resolution, bearing on measures for opening the common roads of the country throughout the cotton districts of India.

3. Civil war in America is now no longer an hypothesis, but a fact; and it is impossible to foresee the issues arising out of the struggle. The wisdom, therefore, of the steps taken by Lord Canning for enabling India to meet our future requirements is becoming every day more apparent, and the committee trust that the Government will not relax its efforts for the accomplishment of every object of the recent proclamation.

4. But the committee desire me to impress upon you the necessity of immediately representing to Lord Canning the desirability of warning the cotton growers and exporters of India against the supposition that cotton of any sort and in an inferior condition will be bought up in this country. This fallacy will ruin all hope of India taking its proper place as a source for our supplies. The want of proper attention to the picking, ginning and packing of Indian cotton, has retarded its consumption in Great Britain, whereas the great design of this association is not merely to obtain an increase of quantity, but to elevate the character of East India cotton both as to its staple and merchantable condition.

5. At the same time the committee are fully aware that the cotton trade of the interior of India has laboured under serious impediments, which have been the cause of the evils complained of, and that a remedy must be applied to these evils. This in the opinion of the committee can only be thus effected. Europeans must be inspired with that confidence which alone will induce them to take up their position in the interior of India, and superintend the trade among the natives. To inspire this confidence, the Government must establish efficient courts in every cotton district, which shall have the power to enforce contracts between the grower and the purchaser, and enable Europeans to recover with promptitude any advances that may be made for the purchase of produce. This will enable the ryot to rid himself of the necessity for paying exorbitant interest for temporary accommodation of seed or money: and he will be able to deal directly with the European. By thus introducing Europeans into the country with greater intelligence, energy and enterprise than that of the natives, superior methods of agriculture will be adopted, and greater care will be taken in the preparation of produce for the market. The value of the article will thus be increased, and the application of steam-power to the processes of cleaning and packing will enable the European to afford a better price to the produce.

I.
India.

6. The Stamp tax which requires that "every engagement to cultivate produce, provide or deliver any article of commerce in consideration of advance made," should be written on stamped paper, for which the rates are so excessive, operates as a most serious check to the investment of capital in the purchase of produce. In some parts of India business is entirely stopped through the impossibility of obtaining the Government stamped papers. Formerly forms of contract were kept printed by the dealer ready for use, as the transactions with the ryots extend in individual cases sometimes to many thousands. The labour of now writing these upon stamped paper is, therefore, a most serious hindrance to the trade. The committee would strongly urge the necessity for an immediate remission of this fiscal burden, striking as it does at the very source and spring of the national industry of India. Frauds by way of adulteration are perpetrated to an alarming extent in the delivery of produce for which no adequate punishment is provided by the Courts in India, which are too often so inaccessible from distance, so protracted in their decisions, or so expensive and intricate in their processes, as to deter both the natives and Europeans from resorting to them for the redress of grievous wrongs.

7. You cannot too seriously impress the Government of India with the fact that wide-spread dissatisfaction exists, and is daily growing in this country, with the present unsound and oppressive system of the land tenure of India. The public of England are becoming conscious that a grievous wrong is done to their fellow Indian subjects by perpetuating the present antiquated, vexatious, complex, and oppressive systems of land tenure. The indifference which has hitherto been shown to Lord Stanley's enunciation of his views as to the sale of waste lands in fee simple, and also to the more important question of permitting the redemption of the land tax, has also awakened great dissatisfaction in the minds of a large number of our most influential men. It is believed that larger and more comprehensive views must be taken by the Government of India on this subject, or we shall continue to behold in India an impoverished country instead of what she might otherwise become, one of the wealthiest and most prosperous regions of the globe. By permitting the redemption of the land tax at from 10 to 15 years' purchase, the position of the Government would be strengthened both financially and politically, while at the same time the landowner would be enabled to lay out his capital in improvements, and foster those accumulations of invested wealth which would give stability to the industry and institutions of the country, and render the chance of wars or mutinies remote if not impossible. In the present financial position of the Government, the question of rendering India able to compete with such a country as the United States in the production of cotton is one of imperial concern. To do this, India must be endowed with equal commercial facilities and advantages. The soil of America is cultivated under Anglo-Saxon supervision; land is purchasable in fee simple, commercial contracts can be enforced, the redress of wrong is attainable without delay, no fiscal stamp tax harasses the planter. The vigour and abundant capital of private enterprise and public companies covers the country with a net-work of cheap communications, and the produce of the farmer meets with no impediment on its swift passage to a ready and constant market. The skill of the Anglo-Saxon is brought to bear at every step, from the tilling of the field to the shipment of the cotton. To render India a possible competitor of the United States, the private enterprise, the skill and the capital of Englishmen must be let loose upon the soil—must be encouraged by every means, and even courted, if the Government will see its own interest, and pursue the only path to the rapid development of India's vast resources.

8. But while thus requesting you to represent the views of the association to his Excellency, the council would not have it supposed that they have either overlooked, or that they under estimate the various measures now in progress to aid the cotton trade of this country in the coming crisis. The council have read, with great hope of an approaching change, the announcement that the Government of India has already effected an alteration "in the law regarding contracts," and that "the solution of questions regarding the tenure of land is now under consideration."

9. The council further request that you will make special and particular inquiry of the Government as to what land can be given to European cultivators of cotton in suitable districts, and the terms upon which such land may be had for this purpose. The council have been applied to to obtain this information as speedily as possible, and hope that through you the Government will be pleased to satisfy this inquiry in the fullest possible manner.

10. I beg also to enclose a copy of a resolution passed by the council of this association at their meeting on Tuesday the 7th instant, and request the favour of your presenting it to his Excellency the Governor General.

11. I am also desired to request that you will place in his Lordship's hands a copy of a petition, sent herewith, which has been signed by nearly all the cotton spinners and their workpeople throughout the United Kingdom, and presented to the House of Commons.

COPY of a Resolution passed at a Meeting of the Council of the Cotton Supply Association, held on Tuesday, 7 May 1861.

Resolved.—THAT the council of the Cotton Supply Association regard with great satisfaction the means now being taken by Lord Canning for facilitating the transit of cotton to the seaboard of India, with a view to meet the probable increased demand for cotton in this country arising from the expected falling off in our supplies from the United States of America. This council, moreover, is of opinion that the measures now in course of adoption although calculated to afford temporary relief, require to be followed by other and important changes, not only in the system of land tenure, the law of contracts for the delivery of produce, the excessive stamp taxes upon trade contracts, and the facilities offered to public companies and private enterprise for the construction of roads, railroads, canals, riverways, works of irrigation, &c. &c., without which necessary and important changes the council entertains no hope of India being able to meet the requirements of this country for an increased supply of cotton of a superior quality to that which has hitherto been exported from that country; the great object to be desired being that of rendering India capable of competing on fair and equal terms with the United States of America.

WHERE IS COTTON TO COME FROM TO KEEP THE MILLS AT WORK?

The following Petition from the Cotton Trade to the House of Commons is now in course of signature.

To the Honourable the Commons of Great Britain and Ireland in Parliament assembled.
The Petition of

Humbly sheweth,

THAT your petitioners are greatly alarmed at the prospect of a serious diminution in the future supply of cotton to this country, in consequence of the civil war now raging between the Northern and Southern States of America.

That your petitioners therefore believe it to be the duty of your Honourable House, in this great emergency, at once to adopt the most prompt and effectual measures for rendering India capable of furnishing an ample supply of improved cotton, your petitioners believing that India possesses the capability of meeting the requirements of this country, not only as a source for the supply of cotton, but also as affording a market for the products of their industry.

That the reason why America hitherto obtained precedence over India in the cotton market of this country, has been that India has been deprived of numerous agricultural and commercial advantages essential to its prosperity, but which the United States have possessed in a pre-eminent degree, because—

1. Anglo-Saxon energy, skill, and intelligence, have directed the slave labour of the American cotton states, while from India Anglo-Saxon enterprise has been almost excluded.

2. The cotton planter of America has enjoyed a freehold tenure of his estates; in India the cotton grower is compelled to farm upon an uncertain lease.

3. America has afforded security to capital, and the whole country is consequently intersected with land and water communication.

4. In India, the absence of security to capital, and of the power to purchase the fee-simple of land, has prevented the formation of those companies and action of that private enterprise which would otherwise long since have provided India with ample means of land and water transit and transport.

5. America has given, by her courts of justice, security to person and to property; the want of such security has retarded the progress of India.

That your petitioners believe that were British skill, enterprise, and capital directed to the development of the agricultural resources of India, that country would speedily be rendered capable of supplying cotton of as good quality as that now furnished by the restricted and costly slave labour of the United States.

That your petitioners are of opinion that the embarrassed financial condition of India renders it probable that for many years to come the utmost efforts of the Government will be inadequate to the construction of the necessary public works, roads, railroads, canals, waterways, reservoirs, tanks, and works of irrigation, without the aid of which India cannot successfully compete with the cotton-growing states of America. At present, the want of roads debars the British capitalist and trader from dealing with the native grower in the interior of India, and of introducing, as in America, any improvement, whether as to methods of cultivation, or a better system of cleaning and packing cotton. The consequence is that the grower is deprived of the necessary stimulus to exertion in supplying a better article.

I.
India.

Providing, however, that the Government will grant the encouragement and protection which are afforded to the capitalist and trader in the United States of America, your petitioners are confidently of opinion that private enterprise and public companies would furnish capital adequate to the completion of the indispensable works of communication and irrigation, and thus not only vastly improve the sources of the public revenue, but, at the same time, by encouraging the industry of India, would contribute to the entire national welfare of this kingdom.

That your petitioners especially call the attention of your Honourable House to the great advantage which must accrue to India, and to the cotton trade and commerce of this country, by the speedy opening of the navigation of the River Godavery as a means of access to the vast cotton fields of Berar, which river may be rendered navigable by a comparatively small outlay of capital; and your petitioners pray that your Honourable House will forthwith take into consideration the means by which this important object may be most speedily attained, your petitioners being assured that this one district of India alone is capable of furnishing all the cotton required for the consumption of Great Britain.

Your petitioners therefore pray your Honourable House to adopt such measures as will contribute to the development of the agricultural and commercial resources of India, so as to enable that country to compete, on equal terms, with the United States of America, especially in the production of cotton; and your petitioners pray that such measures may include—

1. The sale of land in fee simple.
2. The establishment of efficient courts of law, which, while giving protection to the ryot, shall afford security to capital, and the means of enforcing the just fulfilment of contracts.
3. The construction of all necessary public works, such as roads, railroads, canals, or waterways, tanks, reservoirs, and works of irrigation, and particularly the opening of the navigation of the River Godavery.

And your petitioners will ever pray.

Enclosure 8, in No. 19.

From *W. Grey*, Esq., Secretary to the Government of India, to Messrs. *Mosley and Hurst*, Honorary Agents to the Manchester Cotton Supply Association, (No. 1289), dated 2 July 1861.

I AM directed by the Governor General in Council to acknowledge the receipt of your letter dated the 20th ultimo, forwarding copy of a communication to your address, dated the 15th May, from Mr. Haywood, the Secretary of the Cotton Supply Association, in Manchester, together with copy of a petition from the cotton trade in England to the House of Commons regarding the future supply of cotton from India, and in reply I am instructed to make the following observations:—

2. The Governor General in Council is glad to know that the measures which have recently been taken here for facilitating the transport of cotton from England to India are satisfactory to the Cotton Supply Association.

3. With reference to the suggestion in the 5th paragraph of Mr. Hayward's letter, for the establishment of efficient courts in every cotton district in India, I am directed to state that great progress has been made, and is still being made in the improvement of the local courts, and that more has been accomplished in this respect during the past two or three years than during a long series of previous years.

4. In regard to the alleged obstructions offered by the stamp law, noticed in paragraph 6 of the letter, the Governor General in Council thinks that the association have been misinformed. No reliable evidence has ever been laid before Government that the Stamp Act operates in the manner described; certainly there is no impediment to the stamping of printed forms of contract; and it is probable that the information on which the opinion of the association is founded relates altogether to the period of the first introduction of the Act, when the inconveniences inseparable from a new enactment of the kind were experienced.

5. With reference to the remarks in paragraph 7, I am desired to observe, that no parallel can be drawn between the case of America and that of India: the one is a new country, possessing a breadth of fertile virgin land suitable to cotton, so vast as to be practically without limit, and for the most part unencumbered with any rights of ownership dating further back than the recent removal of the primeval forest: the other is an old country, where the extent of good available land unappropriated by ancient occupants is very small, and where almost all the good and accessible land has been for ages in the hands of private

private proprietors, to whom it has descended fettered by an extraordinary variety of private rights and intricate tenures which have grown out of the religious and social usages of centuries, and any general interference with which, on the part of the Government, would be not only most prejudicial to the security of private property, but harsh and hateful to our native fellow subjects, and dangerous to contentment and peace.

6. The Governor General in Council would be very sorry indeed to believe that any considerable number of persons amongst those who have given thought to the land tenures of India, entertained the opinion which is attributed to the public of England in Mr. Haywood's letter.

7. The subjects of the grant of waste lands in fee simple, and of the redemption of the land-tax, have occupied, and continue to occupy, the earnest attention of the Government. They have been considered with every desire to afford the fullest scope for the investment of European capital, and to remove all artificial impediments to the landowner making the most profitable use of his land.

8. It is probable that the former subject, relating to the grant of waste lands, will shortly be disposed of in such a manner as to promote these great objects. The other, the redemption of the land-tax, is beset with greater difficulties, owing partly to wider differences of opinion on the subject itself, and partly to the great financial importance of the land-tax, which forms so very large a portion of the public income as to render any hasty and misjudged action regarding it very inexpedient.

9. The Governor General in Council desires to remind the association that the general testimony of all the best qualified observers, American as well as English, goes to prove that in the details of cultivation the native of India has little or nothing to learn from the agriculturists of other quarters of the globe, and that it is only in the gathering, cleaning, and transport of cotton, and not in its cultivation, that much improvement can be expected.

10. With regard to the gathering, which is the process most important to the cleanness of the cotton, and to its freedom from dirt and leaf, the Government can do absolutely nothing; but much may be done by the capitalist who lends money to the cultivator, or who buys the produce from him.

11. The same may be said of the process of ginning, or freeing the cotton from seed. It is for the capitalist, and not for the Government, to discover and to teach to the Indian cultivator cheap and effectual means of doing this. The Government, it is true, has gone to great expense, and has devoted the services of some of its best qualified servants to promote improvements in the process, but as yet, with very partial success; and the main reliance for any better result must be on private enterprise.

12. To facilitate the transport of cotton by improving roads and means of internal communication is a duty which undoubtedly devolves mainly on the Government in this country, and the Cotton Supply Association may rest assured that so far as the financial resources of Government will admit, it shall not be neglected.

13. It is not possible to give any definite reply to the inquiry in para. 9 of Mr. Haywood's letter, as to "what land can be given to European cultivators of cotton in suitable districts." The amount of unappropriated, accessible land, ready for immediate occupation, and at the disposal of Government, is so extremely small, as to be of little practical importance in considering how the cotton produce of India may be largely and rapidly increased. But there are vast tracts of already occupied or appropriated land suitable for the growth of cotton, and on which it will be grown by the spontaneous act of the cultivators whenever they shall find that it will pay them better than grain and other articles of existing produce. Such lands, too, can be purchased to any extent, but not often in large estates; and it is this peculiarity which forms one of the main obstacles to any large and sudden investment of capital in the purchase of land in the cotton-producing districts. The obstacle is manifestly one with which it is not within the province or the power of the Government to deal directly.

Enclosure 9, in No. 19.

From Messrs. Moseley and Hurst, Honorary Agents to the Members of the Cotton Supply Association, to W. Grey, Esq., Secretary to the Government of India, dated the 3d July 1861.

WE have the honour to acknowledge the due receipt of your valued communication of yesterday's date, copy of which has been forwarded to the Secretary of the Cotton Supply Association.

I.
India.

— No. 20. —

EXTRACT, India Revenue Consultations, July 1861.

From *W. Grey*, Esq., Secretary to the Government of India,
To Chief Secretary, Government of Madras, No. 1,399 } dated the
To Chief Secretary, Government of Bombay, No. 1,400 } 23d July 1861.

Madras.
Bombay.

I AM directed to forward the accompanying copy of a Resolution* by the Government of India, dated the 22d instant, and to request that his Excellency the Governor of _____ in Council will be good enough to give effect to it so far as it relates to the _____ Presidency. The Governor General in Council will be glad to hear, at an early date, what arrangement the Government adopts for carrying out the object of the resolution, and if it should be thought desirable to engage the services of a gentleman not connected with the public service, what expense it is proposed to incur.

From *H. M. Reid*, Esq., Commissioner of the Rajshahye Division, to the Secretary to the Board of Revenue, Lower Provinces, No. 65, dated the 19th June 1861.

IN continuation of my letter, No. 286, of the 18th March last, I have the honour to submit, in original, a letter from the Collector of Bogra, No. 143, dated the 25th April; and extract, paragraphs 3 to 6, of a letter from the Collector of Maldah, No. 10, dated the 6th ultimo on the subject of the cultivation of cotton in those districts.

2. It will be observed that in neither district is there, at present, any extensive cultivation of the plant, but the Collector of Bograh is of opinion that the soil of his district is in many parts admirably adapted for it, and I think it might be worth while if further inquiries were instituted on the subject by some gentleman acquainted with the mode of cultivation, and the kind of soil required to carry it on in a successful manner. The Collector of Maldah, it will be seen, quotes the authority of Dr. Buchanan, to show that there were formerly 25,000 beegahs of cotton cultivation in the district of Dinagepore, which at that time included a considerable portion of the present district of Maldah; and he further points out, that there is a tract of country, called the Burun, extending for a considerable distance through the districts of Maldah, Dinagepore, and Rajshahye, and which consists of rising ground, with intermediate valleys running parallel to the River Puddah, which appears to him to be in many ways suited for cotton cultivation. Inquiries might, I think, with advantage, be instituted in this direction also. The present extent of the cultivation is too small and scattered in those districts where it exists at all, to admit of my making any suggestions for the construction of roads, to facilitate the transport of the material when produced, or to enhance, by the introduction of machinery and foreign labour, the extent of the cultivation itself.

3. The replies received from the remaining Collectors do not contain anything of importance, and in none of those districts would the extent of the cultivation appear to be in excess of what it was in 1857.

From *T. P. Larkins*, Esq., Officiating Collector of Bograh, to the Commissioner of the Rajshahye Division, No. 143, dated the 25th April 1861.

I HAVE the honour to acknowledge the receipt of your office memorandum, No. 138, with enclosures, on the subject of cotton cultivation in this district, and in reply to state as follows:—

2. The

* Encl. to letter from Government of India, 25 July (No. 12) 1861.

2. The soil of Bograh is, as you are perhaps aware, in every way suited for the cultivation of cotton to any extent, in at least two-thirds of the district.

3. The land abounds in high artificial islands (if they may be so designated) upon which the mulberry tree used to be cultivated in former times to a large extent, and all of which would now be available for the cultivation of cotton.

4. From inquiries made from some of the old cultivators, I find, that the ryots are in general willing to cultivate cotton to the fullest extent, as it is the most profitable of all country produce, but as they can find no market for the sale thereof they have discontinued its cultivation entirely. They would wish, however, to cultivate for, and receive advances from the Government, so as to ensure payment for their outlay, but this being contrary to the maxims laid down by his Excellency the Governor General, in his Resolution now under acknowledgment, I can of course hold out no such hopes to them.

5. Were some enterprising European to settle down here, and make advances for cotton, I doubt not but that he would be amply repaid.

6. Another question that naturally arises is the supply of seed, there not being a quantity in the district sufficient to sow the vast extent of land that could be cultivated. Government, I presume, would not refuse the supply of the seed, in order to facilitate an immediate increase in the production of cotton.

7. Otherwise, I suppose the seed could be supplied by the Manchester Supply Committee.

8. The sowing commences in the month of October; so that there might be a large production of cotton during the next season, should the ryots be supplied with a sufficient quantity of seed.

9. On referring to the reply to the Board's Circular, No. 28 of 1857, I find an entry of only 50 acres of land under cotton cultivation, but this, I imagine, is considerably under the mark. In that letter also there is an entry of 1,500 acres of land under mulberry cultivation. This might be added to the former number, giving an extent of 2,000 acres available for cotton, but this is, I think, incorrect. Even allowing that this were the amount that could be brought under cultivation, and allowing that a good crop will yield eight maunds per beegah, we should be able to produce in Bograh alone 52,000 maunds of cotton uncleaned, but I would hope for even more.

10. With reference to the different parts of the district in which cotton is still cultured to a small extent, and the expense of cultivation, I have gathered the following information:—

1st. In Thannah Gobindgunge the culture could, I imagine, be very extensive. From inquiry, it would appear that each beegah produces maunds, 2. 10. 8 when intermixed with turmeric. With the little that is cultivated, some planters weave their own cloth, and others sell the cotton at five or six pice the seer. The rent of cotton land is Rs. 1. 4. or 1. 8., and the cost of cultivation is said to be Rs. 1. 8. or 1. 12. per beegah. The sale of the produce of one beegah would therefore fetch Rs. 8. 7., while the cost of one beegah of land and that of cultivation, would be Rs. 3. 4., leaving a clear profit to the ryot of Rs. 5. 3. per beegah.

2d. In Thannah Bograh, I find from inquiry that cotton called "bunga" is cultivated, that the rent of the land is Rs. 1. 12. or two rupees, and that one beegah yields 30 or 35 seers, and the cotton sold at about five pice the seer. This though I think must be rather a matter of guess work, as I can scarcely believe the profits can be so small.

The districts of Nokillah and Raegunge are too low for the cultivation of cotton. In Sherepore it is not cultivated now to any extent, but used to be formerly; it is said, at a cost of five rupees per beegah. It is also grown in Sheebgunge, and sold at five or six pice per seer.

Adomdighee would, I think, from all I can hear be, together with Budlegatchee, the two best districts for the cultivation of cotton. In both of these cotton is cultivated; but I have no information as to the cost of cultivation, &c. on which I can place any reliance. In Adomdighee, I am told, the expense of cultivation to be greater than the value of the produce, and that one beegah never yields more than 10 or 12 seers, and that it sells at five rupees per maund. Cotton is slightly cultivated

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cultivated in Lall bazaar, and cotton is brought to Hillee from Chilmaree, and sold at five rupees per maund of 60 tolahs.

11. I am of opinion that we may take Gobindgunge as the basis upon which we may found some idea of the expense of cultivation and value of produce of cotton in the district, as I am convinced from what I hear that it is a source of even greater profit to the ryot wherever cultivated, than Rs. 5. 3. per beegah.

12. I need not now say how glad I should be were some gentleman connected with the commercial community deputed to inquire into the capabilities Bograh affords for the cultivation of cotton.

13. As regards the means of bringing the produce to port: the Thannah of Nokillah is situated close to the banks of the River Dowkova, up to which there is at present a road which is shut during the rains, but open after the month of January until the setting in of the rains.

Nokillah is about 30 miles north of Serajgunge, and on the direct route taken by all steamers proceeding to Assam. The nearest port of shipment then for cotton from Bograh would be Nokillah, at which place the steamers returning from Assam might anchor and ship the cotton. The road to Nokillah should likewise be put in complete repair, so as to be capable of traffic throughout the year. As it would require a road raised above the inundation, the cost would, perhaps, be somewhat large, but by establishing a toll, any expense would in time be covered by collections.

Nokillah is about 12 miles from Bograh, due east. The road required would be from Bograh to Adomdighee and Budlegatchee, both of which at present are out of repair. It is my intention to include these three roads in the next year's sketch for repairs of roads under the Ferry Funds. There is an excellent road from Bograh to Gabindgunge. Thus, then, Bograh would be the central mart, and from it the cotton would be transmitted with ease to Nokillah. Should it be your wish, I will at once send in a rough estimate of the probable cost of the above-mentioned three roads.

I regret that the delay caused in obtaining information concerning the culture of cotton, has caused me to be rather longer in replying to your memorandum than I should have wished.

EXTRACT from a Letter from the Collector of Maldah to the Commissioner of the Rajshahye Division, No. 10, dated 6 May 1861.

Para. 3. HAVING noticed in Dr. Buchanan's (Hamilton) historical description of Dinagepore (of which this district then formed a part), that the cotton cultivation extended over 25,000 beegahs, I felt sure that in some portion of the district the cultivation might still be carried on; and when travelling in the district, I made a point of searching for individual plants, but with the exception of one near Sola factory, I failed to find any trace of it, nor had the people any recollection of such a crop ever having been general.

4. The only place in the neighbourhood of this district where cotton has lately been grown, was a spot near Parbuttypore, where I learn from Mr. Peter M'Arthur, that certain lands in the Dinagepore district were sown with cotton, and that the plant apparently flourished, but that, owing to the Mehal being over assessed, the place was deserted, and the plants went into jungle.

5. Ignorant of the peculiar soil necessary for the cotton plant, I cannot, with any confidence, make the suggestion, but if a stiff clay soil with facilities for irrigation is what is required, the whole of the high ridge of country, commonly called the "Burno," extending from near Rajshahye along the eastern portion of this district, and on through Dinagepore, appears to promise a good field for cotton. It is at least a sufficiently likely line of country, and would warrant a visit from those interested in the cultivation.

6. The Burno country was evidently at one time densely inhabited, and there are in many places large tanks which might at once be used for irrigation. The great drawback is the extreme unhealthiness of the climate, and the consequent difficulty there would be in getting labour.

From

From Lieutenant Colonel A. Fytche, Commissioner of the Tenasserim and Martaban Provinces, to H. L. Dampier, Esq., Secretary to the Board of Revenue, Lower Provinces, No. 29, dated the 30th May 1861.

I.
India.

I HAVE the honour to acknowledge the receipt of your circular memorandum No. 13 B., of date 12th March last, calling for a report on the subject of cotton cultivation in these provinces.

2. I regret to state that I am not aware of any practicable scheme which would render this commodity an article of sale to any sensible amount in this country.

3. The description of cotton grown here is almost all of indigenous growth (*Gossypium herbaceum*), and which reaches a very fair staple. The soil on which it thrives best is the alluvial soil left by the numerous mountain streams and rivulets on their subsidence at the close of the south-west monsoon. It also grows very well on hill clearings, where often soils containing peaty matter and lignite are met with, and which I believe are very suitable for the growth of the plant.

4. The means of conveying the produce from the interior to the port of Moulmein are excellent in the numerous streams which flow towards the place; but we want men to cultivate it. There would be no want of buyers and exporters in Moulmein, but there is no one to provide the article. The scanty population near Moulmein find a more profitable return for their labour in producing vegetables, fruits and rice, the demand for which is not yet adequately supplied. The more remote inhabitants occupy themselves in felling and selling teak timber, and what cotton is cultivated, is done so, chiefly by them also, but in small quantities, and which appears, instead of increasing, to have been gradually decreasing for some time back, on account of the supply of English spun thread and cloth in the Moulmein market being procurable at such cheap rates. Cotton is also reported to be a more laborious crop to raise, and more subject to injury from drought and insects, than most other crops grown in the country.

5. The average produce of cotton in Amherst Province for the last five years has been calculated as follows:—

	Acres.	Maunds.
In 1856-57 - - - - -	325	1,398
In 1857-58 - - - - -	315	1,354
In 1858-59 - - - - -	379	1,628
In 1859-60 - - - - -	320	1,375
In 1860-61 - - - - -	211	907

An acre is estimated to yield about $4\frac{3}{4}$ maunds of cotton, value 15 rupees, and which when carded, is sold in the Moulmein bazaars at an average of 24 Company's rupees. The following quantities have been exported from Moulmein to Dacca, Tavoy, Mergui, and Arracan, but none that I am aware of has been sent to Europe:—In 1857-58, 1,12,828 lbs.; 1858-59, 2,02,158 lbs.; 1859-60, 1,92,602 lbs.; and 1860-61, 1,18,270 lbs.

6. Besides the indigenous cotton, a small quantity of Pernambuco cotton (*Gossypium acuminatum*) is grown from seed introduced into these provinces some years back by Mr. Blundell and Major McFarquhar; it appears to flourish uncommonly well, and I enclose a small sample of this cotton procured by me at Tavoy. I may also add that this description of cotton grows most luxuriantly in the Bassein District, Province Pegu. I had some 20 trees in my garden there, which bore profusely, and yielded cotton of strong fibre and good staple. I gave samples of it to several merchants at Bassein, who sent it to England for examination; two small plantations of it had been commenced by Europeans before I left Bassein in December last, and more would be undertaken if a favourable report of the cotton was received.

7. The great demand and higher profits derived from the growth of fruits, and other esculents (some of which yield 50 to 60 rupees per acre) and the cheap rates

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at which English spun thread and cloth are procurable, accounts therefore for the trifling extent of cotton cultivation here, and nothing but a very large increase of the agricultural population, whom perhaps a fee-simple tenure might tend to induce to settle in these provinces, will change this order of things.

— No. 21. —

Home Department.—Revenue.—No. 12 of 1861.

To the Right Hon. Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir,

WE have the honour to transmit for your information the accompanying copy of a resolution dated the 22d instant, on the subject of the intended compilation from the public records in each Presidency of a hand-book showing the measures which have, from time to time, been adopted, and their results, for increasing the supply of cotton in India, and improving its quality.

Canning.

H. Rose.

H. B. E. Frere.

R. Napier.

Fort William, 25 July 1861.

Enclosure in No. 21.

RESOLUTION, the 22d July 1861.

THE questions of how to increase the supply of cotton, and how to improve its quality, have, at various times, for many years past, occupied the attention of the Government of India, and very much information on these subjects is on record in manuscript, besides the voluminous selections which have from time to time been published in various shapes, both in India and England.

But some of these compilations have become scarce, and others are in forms which preclude easy reference to them; nor is there any single volume or series of volumes which would be of much practical use as a guide to any person desirous of learning what had been done in each Province, and with what result, to improve and increase the production of cotton, and in what direction further efforts are required, or are most likely to be successful.

Moreover, an examination of the records of former experiments proves that questions are now being raised and discussed, which have, on former occasions, been very fully investigated and decided, and in the further examination of which, if any be required, much valuable time and labour may be lost.

The Governor General in Council, therefore, resolves that the records of each Government on this subject shall be placed at the disposal of some gentleman who may be selected as able and willing to undertake a careful analysis of their contents, and to publish the result within a reasonable period in a form calculated to be useful as a guide or hand-book to persons interested in the cultivation of cotton in India. One gentleman will be selected by the Government of India, to whom the records connected with the several lieutenant governorships and Provinces directly subordinate to the Governor General in Council will be intrusted, and two other gentlemen will be similarly appointed by the Governments of Madras and Bombay respectively, for the purpose of preparing a compilation from the records of those Presidencies.

Each work should comprise a sketch of all that has been done within the limits of each Government, by or with the aid of the Government, from the time when the supply of cotton first became an object of interest to the East India Company. The measures which from time to time have been adopted, and their results, should be stated succinctly with no more detail than is likely to be of interest or utility to persons now engaged in similar inquiries or speculations. Any papers which from their general importance, or the amount of local information they contain, are likely to be useful *in extenso*, may be given in an Appendix. The compilation should not be restricted to the records of the Indian Governments, but should admit anything in the evidence taken before Parliamentary Committees in the transactions of scientific bodies, in books of travels, or in publications like those of Dr. Forbes Royle, which may bear upon the prospects of cotton cultivation within the Provinces for which the compilation is made.

Of necessity there will be much repetition in the three compilations simultaneously prepared. But this will be in no way incompatible with the object in view, which is to furnish a complete digest of all that the archives of India at large contain of present practical value to the cultivator or trader in cotton; a hand-book, in fact, of such information as each local government can supply, and one which shall relieve the inquirer from the necessity for reference to official records in bulk, or to other previous publications.

The latest official statistics of trade or cultivation should be given, and for this or any other information the compiler will be authorised to call on the local officers of land revenue

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or customs, through the Secretary of the local government, and the information should be furnished in such shape as may appear most likely to be of practical public utility.

Maps should be added not only to illustrate the localities referred to in the text, but so drawn as to show the districts where cotton is or may be grown, and the lines of road and river by which it is exported.

The officers of the Surveyor General's or Public Works Department at each seat of Government will be directed to comply with any requisition which may be made on them for this purpose through the local Government.

It is essential that the task should be completed with as little delay as possible. An imperfect compilation, which might be available within the next six months, would be far more useful than one which thoroughly exhausted the subject, but which could not be published till a year hence. Should the work prove really useful further editions will doubtless afford scope for any additional matter of real value which may come to light after the first publication.

With a view, therefore, to a speedy execution of the task it is desirable that it should be intrusted to one who is not trammelled with other official duties, unless they happen to be such as leave him ample leisure for such a task. The Governor General in Council will be willing to sanction any suitable remuneration. It is desirable that this should be in the shape of a fixed sum rather than of a salary. The Government of India will also bear the expenses of an edition of as many copies as it may be thought desirable to have for distribution by Government. The Government will reserve as many copies as are needed for the use of its own officers, and any profit from the sale of surplus copies to the public, or from any further edition which may hereafter be required, will be accounted for the author.

The person selected should be placed in communication with the local agent of the Cotton Supply Association, and should refer freely to the agent on all questions regarding which his opinion or assistance may be useful. Any official documents which the agent may consider of special and immediate importance to the objects of the Association, should be at once placed at his disposal, with a view to its being made available in any mode the association may desire, without waiting for the publication of the complete work on which the compiler is engaged.

W. Grey,

Secretary to the Government of India.

— No. 22. —

REVENUE DESPATCH to Government of India, No. 25, dated 8 October 1861.

1. YOUR letters of the 6th and 25th July last, (Nos. 11 and 12) regarding the measures to be adopted for promoting the future supply of cotton to this country from India, have been laid before me in Council.

2. With reference to my despatch of the 25th July last (No. 20), I have to convey to you my satisfaction at the attention which you continue to devote to this important subject. The letter which you caused to be addressed on the 2d July last, to Messrs. Mosley and Hurst, agents to the Manchester Cotton Supply Association, has my entire approval.

3. You will apprise me of any measures which you may hereafter see fit to take for the encouragement, under the direct auspices of Government, of the cultivation of cotton in the hill districts of Chittagong, the circumstances of which are, in the opinion of the Lieutenant Governor of Bengal, so exceptional as to justify such interference.

4. I also approve of your resolution directing the compilation from the records and other sources of information available in each Presidency, of a hand-book, showing the measures which have from time to time been adopted, and their results, for increasing the supply of cotton in India, and improving its quality. Copies of these compilations will, of course, be supplied to me, for distribution in this country.

— No. 23. —

Home Department, Revenue, No. 13 of 1861.

To the Right Honourable Sir *Charles Wood*, Bart., G. C. B., Secretary of State for India.

Sir,

WITH reference to our letter, No. 4, of 1861, dated the 2d March, we have the honour to transmit for your information the accompanying copy of a circular, dated the 10th instant, together with a copy of the resolution therein referred to, offering

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offering prizes in the present and in the following year for encouraging the production of cotton in India, and the improvement of its quality, and stating the general conditions under which the prizes will be given.

We have. &c.

Fort William,
13 August 1861.

Canning,
H. Rose,
H. B. E. Frere.
R. Napier.

Enclosure in No. 23.

From W. Grey, Esq., Secretary to the Government of India,

To Secretary to the Government of Bombay, No. 1,506.

"	"	"	Fort St. George, No. 1,507.	} Dated the 10th August, 1861.
"	"	"	N. W. Provinces, No. 1,508.	
"	"	"	Punjab and its dependencies, No. 1,509.	
"	"	"		

I AM directed to forward the accompanying copy of a Resolution by the Governor General in Council, which has been published in the "Gazette" of this date, offering prizes in the present and in the following year, for encouraging the production of cotton in India, and the improvement of its quality, and stating the general conditions under which the prizes will be given; and I am directed to request that the Resolution may be re-published in the * "Gazette."†

* Madras, Bombay, Punjab.

† Of the N.W. Provinces.

‡ To Madras and Bombay only.

§ Madras, Bombay.

[‡2. I am further to request that, with the permission of His Excellency the Governor in Council, it may be ascertained from the Chamber of Commerce at § whether they are willing to undertake the duty of awarding the prize in that Presidency, as suggested by the Resolution.]

Resolution dated 9 August 1861.

1. IN a Resolution of the 28th of February last, the Government of India signified its earnest desire to encourage the cultivation of cotton in India by every means consistent with the proper functions of Government.

In the discussions which have since taken place, the best informed authorities on this great national question have insisted on the fact, that while the area of land under cotton cultivation in India is capable of great and rapid extension, under the stimulus of higher prices, the quality of the cotton produced is less easily susceptible of improvement, and that it is most important to direct the attention of all parties interested in the cultivation to improvement of the quality while maintaining, and, if possible, increasing the average yield per acre of the general cotton crop of the country.

2. It has been suggested that the Government of India might usefully aid in this work without infringing the first rule** laid down in the Resolution of the 20th February last.

The Governor General in Council believes that observance of this rule is necessary to any sound and permanent improvement; but, as far as can be done without infringing it, his Excellency in Council desires that nothing be omitted on the part of Government which can aid in arousing the attention of India to the great questions involved in any scarcity of the raw material for our English manufactures—questions, the interest of which is deepened as each successive mail brings fresh evidence that the scarcity may be more than temporary.

3. His Excellency in Council believes that much may be effected even in those older cotton districts of India which have long contributed an important share of the cotton of the lower qualities employed in our English manufactures. But it is of still greater importance, to aid and expedite the solution of the doubts which exist as to the best soils and climates, and modes of cultivation for cotton in those districts whence heretofore there has been little, if any export of cotton to Europe.

4. In furtherance of these views, the Governor General in Council has resolved to offer prizes for the production of cotton during the two next years; that is to say, in the current season of 1861-62, and in the subsequent season of 1862-63.

Three prizes of 10,000 rupees each will be given in each season; one in the Presidency of Fort William, one in the Presidency of Madras, and one in the Presidency of Bombay.

5. For

** 1st. That no measure which places Government in the position of the private capitalist, cultivator, or speculator, or which in any way interferes with private enterprise, can be otherwise than permanently injurious in itself and detrimental to the object in view.

Therefore, all attempts to stimulate cultivation or labour by any exertion of Government authority, directly or indirectly, are out of the question.

The same objection will apply to model farms and experimental cultivation conducted by officers of Government.

5. For the current season the conditions will be as follows :—

A. The prize in each Presidency will be given for the largest quantity of cotton, combined with the best quality, which shall be grown upon any one estate within the Presidency during the season of 1861-62, and which shall be brought for shipment to any port in or before the month of June 1862.

B. Any district in the interior will be considered to have a claim to compete for the prize in that Presidency to the port of which it is intended to send the cotton for shipment.

C. The extent of ground under cultivation must not be less than 30 acres, all belonging to one property, or cultivated by one superintendent.

D. The fulfilment of the last-named conditions must be certified by the chief revenue officer of the district in which the estate is situated, or by any other agents specially recognised by the Government for that purpose.

These two last rules are intended to prevent the prize being given to a selection of picked samples from a large area, which would require none of the care or attention to the general cultivation of the plant which it is the desire of Government to encourage.

E. The prizes will be awarded by the Chambers of Commerce at Calcutta, Madras, and Bombay, respectively, if the gentlemen representing those bodies will consent to undertake the task.

F. A sealed sample of the cotton must be sent by each competitor to the Chamber of Commerce, and the consignment to which the prize is awarded will afterwards be inspected by the Chamber, and verified as corresponding with the sample. In case of its being desired to ship the consignment at an outport, the inspection of it will be made by some person specially appointed by the Chamber of Commerce.

G. Each sample must be accompanied by a full and clear statement by the grower of the system which has been pursued in the cultivation, with an accurate and detailed account of all the expenses incurred.

H. Any subsidiary rules which may be found requisite will be laid down by the Chambers of Commerce.

6. All public officers whose assistance may be sought in respect to the conditions of the 4th rule, or for any other object, are enjoined to give their cordial co-operation in carrying out the intentions of Government.

By Order, &c.,

W. Grey,

Secretary to the Government of India.

— No. 24. —

Home Department, Revenue, No. 17 of 1861.

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir,

WITH reference to your despatch, No. 20, dated the 25th July, we have the honour to draw attention to our Proceedings of April, noted in the margin, from which you will perceive that we authorised the Lieutenant Governor of Bengal to engage the services of Mr. Paterson Saunders to visit the cotton districts of Bengal, with the view of reporting upon any points which might present themselves to him, as legitimately calling for the action of Government in aid of the endeavours of private enterprise to increase the production of cotton for export. It was afterwards arranged, at Mr. Saunders' suggestion, that he should proceed, in the first instance, to the North Western Provinces; and we now have the honour to transmit to you the accompanying report which Mr. Saunders has made to Government of his inquiries in the cotton districts of the Doab.

Revenue Proceed-
ings, 13 April
1861, Nos. 9 and
11.

2. We have invited the observations of the Lieutenant Governor of the North Western Provinces on this report generally, and we will not therefore at present offer any opinion on some of the more important points which are touched upon in it; but the statements which it contains on the immediate subject to which Mr. Saunders' attention was directed are so correct, and the views which it expresses are marked by so much practical good sense, that we think it desirable to forward the paper to you at once, and to suggest that it should be made public in England.

3. We do not dispute the general soundness of the objection taken in your despatch to the expenditure of public money in directly assisting private persons to prosecute inquiries which it properly belongs to private enterprise to make; but we would submit that there are circumstances in the connexion of England with this country, which make it very desirable that the Government should use the surest means at its disposal to satisfy the people of England as to the

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real state of things which they must be prepared to meet when they look to India with the expectation of deriving from it suddenly an enormous supply of an article which India has hitherto been but slightly encouraged to produce. We believe that no official statement would be likely to carry with it the same convictions to the mind of the English trader which will be received from a perusal of a plain spoken and sensible report from a gentleman entirely unconnected with the public service, such as that which we now place before you, and in this view we consider Mr. Saunders's report to be very valuable.

We have, &c.

Canning.

H. Rose.

H. B. E. Frere.

R. Napier.

Fort William,
1st October 1861.

Enclosure in No. 24.

EXTRACT, India Revenue Consultation, April 1861.

From *W. S. Seton-Karr*, Esq., Secretary to the Government of Bengal, to *W. Grey*, Esq., Secretary to the Government of India, No. 373 A., dated the 26th March 1861.

WITH reference to the Resolution passed by the Governor General in Council, regarding the supply of Indian cotton to England, a copy of which was received with your letter No. 412, dated the 28th ultimo, I am directed to report for the information of the Government of India, that the Board of Revenue and the Chamber of Commerce were addressed on the subject, and their opinion and views requested with a view to giving a ready effect to the measures contemplated. No reply has as yet been received from the Board of Revenue; but the reply from the Chamber of Commerce to the requisition addressed to them is herewith forwarded.

2. I am desired to remark that there is little in the general instructions of the Government of India which has much application to any of the provinces under this Government, no one of which can be designated as especially a cotton-producing country, though it is impossible to say how far cotton might be introduced into them if a rise of price were to make the speculation promising; and even at present prices it appears possible that cotton may become a flourishing staple in the Sunderbunds.

3. At present, therefore, it does not appear that roads of any description in the lower provinces, whatever other good effects they would produce, could be so directed as to have any material effect in at once drawing cotton to the port.

4. Cotton from the cotton country of Upper Central India, if it comes at all, will always pass through the Bengal Provinces by the Grand Trunk Road, the railway or the river.

5. With reference, however, to the letter from the Chamber of Commerce, if the Government of India approves, the Lieutenant Governor thinks that the deputation of Mr. Paterson Saunders, senior, to those provinces where there is a likelihood of cotton being produced in considerable quantities, might be a useful measure. Such places are Assam, the Garrow Hills, the Sunderbunds, the Cittagong Hills, the South-west Frontier agency, and the Darjeeling Morung; and the Lieutenant Governor would propose that Mr. Saunders should be allowed a thousand rupees a month for this special duty to cover his expenses.

6. Mr. Saunders would be requested to communicate freely with the Commissioners and other executive local officers, and if any local line of traffic could be immediately improved so that it would bring more cotton into the market without delay, such improvement could be undertaken by the Ferry Fund Committee or the magistrate. The Commissioners of Division would be informed accordingly and instructed to afford Mr. Saunders all the information in their power, and this arrangement will be better, the Lieutenant Governor thinks, than sending a Government officer with Mr. Saunders.

From *H. W. J. Wood*, Esq., Secretary to the Bengal Chamber of Commerce, to *H. Bell*, Esq., Upder Secretary to the Government of Bengal, dated 21 March 1861.

I AM directed by the Committee of the Chamber of Commerce to acknowledge the receipt of your letter, No. 258 A, of the 6th instant, with its enclosure, on the subject of a supply of Indian cotton for England.

With reference to the suggestion that it would be desirable that officers who may be employed to examine and report on measures in connexion with the cotton trade, should be accompanied by a member of the commercial community, I am instructed to state that Mr. Paterson Saunders, senior, has submitted to the chamber the offer of his services for employment in the duty proposed by his Excellency the Governor General in Council, and that the Committee are of opinion that Mr. Saunders is well qualified for such a mission, and that his practical knowledge of the cotton trade, and the country where it is produced, together with a large Indian experience, will enable him to render much valuable aid in attaining the object which the Government have in view.

From Lord *H. Ulick Browne*, Under Secretary to the Government of India, to *W. S. Seton-Karr*, Esq., Secretary to the Government of Bengal, No. 708, dated 13 April 1861.

I.
India.

I AM directed to acknowledge the receipt of your letter, No. 373 A, dated the 26th ultimo, and in reply, to state that the Governor General in Council sanctions the proposal of the Honourable the Lieutenant Governor to depute Mr. Paterson Saunders, senior, with an allowance of 1,000 rupees a month to cover his expense to those districts of the Lower Provinces, where there is a likelihood of cotton being produced in considerable quantities, and approves of the plan of working indicated in the last paragraph of your letter. It is presumed that the period during which Mr. Saunders will be occupied on this inquiry will not extend beyond a few months.

Enclosure 2, in No. 24.

EXTRACT.—India Revenue Consultations, June 1861.

From *P. Saunders*, Esq., Senior Commissioner to Report upon the Cultivation of Cotton, to *W. Grey*, Esq., Secretary to the Government of India, No. 2, dated Benares, 7 June 1861.

I HAVE the honour to inform you that I arrived at Benares on the 1st current, and that I have been travelling through the district (pending the arrival of instructions from his Honour the Lieutenant Governor of the North Western Provinces to the Commissioners of Divisions, which have not yet reached them), and gathering information regarding the cotton trade generally. The result of my observation and inquiries is, in my opinion, of sufficient importance to lead me to submit the same at once for the consideration of his Excellency the Viceroy and Governor General in Council, although I am aware that communications in regard to the districts of the north-west are to be addressed to the Government of the North Western Provinces. The present communication, however, does not refer alone to the districts of the north-west, as will be seen in the sequel.

1. The first object that arrested my attention was the immense number of heavily laden cotton carts drawn by five and six bullocks passing daily through Benares on their way to Ghazepore; and I was informed that this had been the case for the last three months. The Commissioner of Benares, who has been in the North West Provinces for the last 30 years, declares the traffic to be altogether unprecedented. In addition to carts, great numbers of camels passed through Benares, laden with cotton, which is quite unusual. The information I received from other authorities and indigo planters was to the same effect. From the heavy rains that had recently fallen throughout the whole line of the Grand Trunk Road, the damage to the unprotected cotton bales was very great.

2. The greater portion of this cotton, I was informed, had come from the cotton districts of the Doab, above Cawnpore, and a portion from Bundelkund, through Mirzapore.

3. I was further informed that the cotton merchants would not avail themselves of the sections of the lines of railroad completed, as wherever a break occurred, they would be under the necessity of getting fresh cars, drivers, &c., and they preferred loading at once from the distant marts of Calpee, Futtehgurh, Hatras, Boolunshuhur, &c., and conveying their cotton to Ghazepore, a distance of 300 and 400 miles, although the time expended in that conveyance was from 40 to 50 days, and the damage to the cotton from the dirt, dust, and rain, was considerable.

4. With reference to the above state of things, and taking into consideration the expressed desire of His Excellency the Viceroy and Governor General in Council, that "it is not intended to discourage on the part of those who may be engaged as above described (in reporting upon the obstacles that impede the cotton trade) suggestion of any extensive or costly work which may promise to subserve in a larger and more permanent manner the great object in view, even though it may not admit of speedy execution, or be within the means of Government to sanction immediately," I beg respectfully to submit the following suggestions for the consideration of His Excellency the Viceroy and Governor General in Council, in the full belief that they can be carried out in time for the ensuing cotton crop of 1861, and, if so, that they will contribute to the safe and prompt exportation of cotton from the Upper Provinces, from Calpee and the district of Bundelkund.

5. The objection of the cotton merchants to make use of the railroad is in consequence of breaks on the line; to remove this objection, and to give them one continuous line from the cotton districts to a good port of embarkation on the Ganges, are points of the first importance.

6. At present the line is completed from Etawah to Allahabad, but the break between Allahabad and Ghazepore is a complete bar to the cotton merchants making use of the line.

7. I have been informed that the lines from the left bank of the Jumna, opposite to Allahabad, as far as Arrah on the Soane, is in a very forward condition, and I would suggest that this portion of the line be completed as rapidly as possible, even if rails and other materials intended for portions of the line on the other side of the Soane were used for that purpose.

I.
India.

8. From Arrah to the Ganges the distance is about 10 miles, and I would suggest that a branch be carried out that distance. Such a branch would always be useful to the inhabitants of Chuprah and the important districts to the north of Chuprah, while it would connect the great cotton districts of the north-west with a point on the Ganges where there is abundance of water all the year. From this point to Rajmehal, cotton could be conveyed in boats and steamers, and from Rajmehal to Calcutta by rail.

9. The line of railroad suggested to be completed passes through Mirzapore and the district of Shahabad, where cotton is largely cultivated, but not at present exported.

10. It is admitted that the bridging of the Soane will occupy some years, and unless some project like the one I have ventured to suggest be adopted, we shall remain without continuous communication to Calcutta until the bridge be completed.

11. The only extra expense that will be incurred by this project is the construction of the branch from Arrah to the Ganges, while the income to Government from the completion of the line would be very large.

12. The Commissioner of this division and other authorities, whose opinion I have asked regarding this project, are strongly in its favour.

Enclosure 3, in No. 24.

REPORT on the COTTON DISTRICTS of the Territories lying between the Jumna and Ganges, commonly called the Doab, and the Obstacles that impede the Trade in Cotton.

From P. Saunders, Senior, Commissioner to Report on the Cultivation of Cotton, to William Grey, Esquire, Secretary to the Government of India, Home Department, dated Roorkee, 1 September 1861.

Sir,

I HAVE the honour to submit for the consideration of his Excellency the Viceroy and Governor General in Council, the following report on the cotton districts of the Doab, and to express my regret that the severity of the weather, and illness occasioned by exposure, have prevented my furnishing the report at an earlier period.

I have confined myself entirely to the districts lying between the Jumna and the Ganges, from the junction of the two rivers at Allahabad to the base of the Sewalick range of hills, and to these districts alone the few statistics given refer.

Area, Population, Soil and Climate.

From a revised statistical return, prepared in 1848, and published under orders of the Honourable the Lieutenant Governor of the North Western Provinces, I find that the area of the territories lying between the Jumna and the Ganges, measures about 25,901 square British statute miles of 640 acres, each giving a total of acres 16,576,640, about one-fourth of which are classed as barren or osour lands.

2. The population of this area numbers about 9,104,598, being rather more than 350 persons to the mile, an average in excess of the population of China, which, according to Mr. Davis' report, numbers only 277 persons to the square mile.

3. The soil of this territory is generally a light sandy soil of considerable depth, and great fertility when it receives the fertilizing influences of sun and rain, in alternate due proportions, but remains a barren waste, during the long droughts that occasionally occur, in all places that cannot be reached by irrigation. It is well adapted to the growth of cotton, which requires a porous soil, and from its long tap-root a considerable depth of it. The country is not subject to inundations, nor have I ever seen much damage done by excessive rains. The present season has had a greater fall of rain than any I remember since 1838, and the crops are abundant and flourishing.

4. The climate may be divided into four seasons. The dry hot winds, the rains, the fall, and the cold weather. The first last from the middle of March to the middle of June; the second from the middle of June to the middle of September; the third from the middle of September to November, and the fourth from November to March. The season most important for the cultivation of cotton, and many other articles of produce, is the rains, and in my experience of nearly a quarter of a century, I must state that there is scarcely one year in 10 when the rains are uniform throughout, and the harvest is what is usually termed a bumper one. Generally there is a most injurious break in the rains, sometimes from 18 to 20 days in July, and sometimes from 18 to 20 days in August. These temporary droughts check the growing crops to such an extent as to make all the difference between a good and a bad harvest. To cotton, which requires moisture with no great intervals of cessation, especially when in flower, these droughts are very injurious. Hence the vast importance of irrigation. If the crops can be irrigated, during these temporary droughts, they will always be abundant. Again, this country is subject to periodical droughts at considerable intervals of time when there is an almost total failure of rain. These are marked by appalling desolation and famine, and the power of irrigating the land during

during these awful periods rescues hundreds of thousands not only from want, but from certain death. The canals, with their numerous branches, which run nearly the whole length of the Doab, and traverse it in numerous directions, have furnished that power. Whether they have done so, or do so, to the extent of their capabilities, are questions which are discussed under the heading of canals.

The Past Trade in Cotton.

5. Thirty, and forty, and fifty years ago there was a considerable trade in cotton, and it was largely exported to China and England. The merchants and planters in the north-west had cotton factories and cotton screws at Futihghur, Calpee, and Mirzapore. They purchased the cotton from the natives, cleaned, screwed, packed, and exported it to China and England; but the trade gradually died away. The exporters were unable to compete with the cotton grown in the Southern States of America by slave labour, and on lands that paid no Government revenue. The factories were allowed to go to ruin, and the cotton screws rotted away. There are men living yet who carried on that trade, and I think it will not be out of place if I quote the evidence given by one of them.

EVIDENCE of Mr. John Nechtarlein, Indigo Planter, of Madrak, in the Allyghur District, dated 10 August 1861.

Ques. 137. "How long have you been in the district of Allyghur?"—*Ans.* I have been 43 years in this district, and engaged during that time in purchasing cotton, and indigo planting.

138. "When did you first commence purchases of cotton?"—I first began to purchase cotton in 1817.

139. "To what time did you continue to purchase cotton?"—To the end of 1821.

140. "Did you purchase cotton largely during that period?"—Yes, I purchased about 80,000 maunds annually.

141. "Where did you send the cotton after purchase?"—I sent the cotton to Calcutta for shipment to China and England.

142. "Did you pack it yourself?"—Yes, I had six cotton screws and had the cotton cleaned and screwed into bales, weighing 300 lbs. each bale.

143. "What was the cause of your discontinuing the trade in cotton?"—Prices fell so low in England that it did not pay, and the business was entirely given up."

There are men living who remember the arrival of ships from India in the Thames in the year 1826, laden with cotton, and remember that those ships were sent back with their cargoes to China, as in England there was no market for it at all. Under these discouraging circumstances, and with heavy losses in shipments, heavy losses in buildings and cotton screws, the foreign trade in cotton became extinct.

The Present Trade in Cotton.

6. The present trade in cotton has been carried on almost exclusively for the last 30 years by native merchants and only for export to other parts of India for home consumption, and a few thousand maunds to China. Several attempts were made by the East India Company to revive the trade by introducing American cotton gins, and American planters to superintend them. But they were galvanising a dead body. The native consumers did not care for American ginned cotton, and were not particular on the subject of cleanliness. That which alone would have given life and vigour to the trade was wanting, namely, a demand from beyond sea. The European settlers took little or no interest in the movement, and the American cotton gins shared the fate of the old screws of Futihghur and elsewhere, and the trade continued without change in the hands of the natives. For the last three years there have been some curious changes in the cotton trade. After the mutiny year, in consequence of the small supply, prices became almost doubled. I have it on the evidence of several native cotton merchants that, in 1858, prices went up to 22 rupees the maund of 100 lbs. at Mirzapore and Ghazeepore, the prices in the growing districts being 10 rupees a maund of the same weight. The usual results took place, and more cotton was grown than could be consumed. Prices fell to 15 and 14 rupees a maund, at which they remain. I have it on evidence from several native merchants that there are more than 50,000 bales of cotton at this moment at Mirzapore and Ghazeepore, for which they cannot find purchasers. While then they hear on all sides that supplies of cotton to England from America have failed, while they are told that a great trade will spring up, and that hundreds of thousands of bales are wanted, while they see cotton seed distributed in all directions, and pamphlets teaching them how to cultivate cotton circulated amongst them, they are confounded by the astonishing facts that there is not one single purchaser among them, that their stocks of cotton are lying rotting at the marts of Mirzapore and Ghazeepore, and that the cry from Lancashire is merely a voice and nothing more. Under these circumstances it will surprise no one to know that the breadth of cotton sown this year has been influenced only by their own probable home demands, and has in no wise been stimulated by the accounts from America or elsewhere. The landowners admit, however, that a greater breadth of cotton has been sown this year than usual, owing to the early rains, which are always favourable to an abundant cotton crop.

I.
India.*The future prospects of Cotton, and proper method of conducting Cultivation and Trade.*

7. When a real demand for cotton comes from England, and cotton ceases to be grown by slave labour in the Southern States of America, a large and immediate supply could be sent from these provinces. For a trade in cotton, such as England would consume, European superintendents and European capitalists are indispensable. There is no doubt that with proper cultivation the native cotton would be largely improved in colour, fibre, and staple, and the exotic varieties, such as Egyptian and New Orleans would grow well. The European capitalist is required to advance funds to the grower, to teach him how to cultivate and pick his cotton, to erect factories, and import screws for the purpose of cleaning, screwing, and packing the cotton. I am convinced that, in these densely populated districts, Europeans can never cultivate cotton on a large scale. Every man, woman, and child in the country would steal it, and as the picking of cotton occupies nearly two months, the European growers would not house one-third of their crop. All agricultural produce that the natives can eat or use, such as grain or cotton, can never be grown on a large scale by Europeans, but they may, with great advantage, have small plantations attached to their factories to show the people how to cultivate, the greater profits of good cultivation, and be enabled also to distribute good seed among them. The Manchester Cotton Supply Association, with their million of capital and determination not to engage in the cultivation of cotton, could operate very advantageously in these provinces, and without infringing the rule or principle they have laid down for themselves. If they desire to do so at once, in anticipation of a greatly diminished supply from America, the field, and a very extensive field it is, lies open for them; but it is not probable that Europeans settled in the country, remembering past disasters, will take the initiative in a trade, requiring an outlay of capital for building and machinery, until the American question is settled, and a real and a prospectively permanent demand is secured to them. The initiation of such a trade then, under present circumstances, can only be undertaken by those directly interested in the consumption of cotton, and who would be exposed to severe losses from any sudden interruption of supply, by agents, in fact, deputed by the manufacturers of England. And this brings me to the first obstacle that impedes or would impede the trade in cotton, namely, the alleged discouragement to the settlement of Europeans in the country by the Government of India and their servants.

Settlement of Europeans in the Cotton Districts.

8. I have stated it as my opinion that the cotton trade in this country for export to England cannot be carried on except by the capital and under the superintendence of Europeans. Any obstacles to their settlement would, therefore, be fatal to a future trade in cotton for export. On this most important question I have taken the evidence of many civilians, and of almost every leading European planter and merchant from Benares to Roorkee. Commissioners of divisions, judges, magistrates and collectors, universally gave their testimony in favour of the settlement of Europeans, the beneficial effects of their commercial enterprise, and the justice of their dealings with natives. The merchants and planters, on their side, to a man, repudiated any hostility on the part of the civil authorities, or any discouragement to their settlement in the country. As a true understanding upon this subject is of the greatest importance, I will give extracts from the evidence taken by me in various cities of the Doab.

EVIDENCE of Mr. W. Edwards, Judge of Benares.

Ques. "Are there many Europeans settled in your district?—*Ans.* There are a few indigo planters in the neighbourhood, and a few merchants and other residents in the town.

"Can you state whether planting and business transactions are carried on between Europeans and native agriculturists and others, in a friendly manner, or is there much litigation between them?—I have not heard of any discontent on the part of natives, or oppression on the part of Europeans, and there is little litigation between them. In the district of Budaon, where I was magistrate and collector, the indigo planters were very popular."

EVIDENCE of Mr. Hugh Maxwell, a member of the firm of Begg, Maxwell & Co., of Cawnpore.

Ques. "You have been in these provinces 33 years, as a merchant and planter; have you ever found any obstacles thrown in the way of your business, or any discouragement on the part of the civil authorities?—*Ans.* In addition to being a merchant and planter, I have been, and am, still a zemindar, and I have never met with any hostility on the part of the civil authorities, or had any obstacles thrown in the way of my business."

Mr. F. C. Briant, Merchant of Futihgur.

Ques. "Do you find any obstacle to your settlement in the country on the part of the civil authorities?—*Ans.* None; I find only that they lean more to the natives than to the Europeans in all matters of dispute. If a native and a European were to apply at the same time for a piece of land in the gift of Government, the native would get it."

EVIDENCE of Mr. *John Nechtarlein*, Indigo Planter, of Madrak, in the Allyghur district, forty-three years resident in the country.

Ques. "Have you found any obstacles to your settlement in the district as a cotton purchaser and indigo planter?"—*Ans.* No, none.

"You have found no hostility on the part of the civil authorities?"—None whatever."

9. It has been asserted, and a large and influential class of people in England believe it, that if a great cotton trade were to spring up, and numerous capitalists, or their agents, were to settle in the cotton districts, it might result (I copy the words from a paper published in the "Cotton Supply Reporter"), "in the establishment of slavery in India as tyrannical as that of the negroes in America." Others assert that there will be forced labour, compulsory advances, and robbery of the cotton grower or ryot, in the shape of paying him only the half of the value of his produce. I put this question exactly as it is written above, to many civilians and planters, and I give a few of their replies.

Mr. *W. Edwards*.

"The intelligence of the agricultural population of these provinces is such, that the occurrence of such a state of things as you say has been contemplated, is impossible. The people thoroughly understand their own rights, and know where to apply for a remedy if those rights should be invaded, as well as any European, and that remedy is cheap and immediate."

Mr. *Sandys*, Manager of the Firm of Greenway & Co., of Cawnpore.

"The natives are too astute, and quite ready and able to protect their own interests, and pursue legal remedies for wrongs sustained, for any such extravagant ideas to be rational."

Mr. *Hugh Maxwell*.

"I conceive such a result to be impossible in any part of the Upper Provinces I have had experience of, from the independent character of the ryots, and their thorough knowledge of their rights."

Mr. *J. Nechtarlein*.

"The ryots, or holders of land in this country, understand their rights as well as Europeans, and it would be impossible to force them to take advances, or force them to work against their will, or take their produce at one farthing less than the stipulated contract price. They would resort at once to the law if any attempts of the kind were made; and if the law did not give them a remedy, they would take it into their own hands. No European could carry on business in this country who attempted such illegal and violent acts. The Government alone, in their opium business, can compel the ryots to do business, and give opium on their own terms."

10. No question can be more conclusively settled than that of the settlement of Europeans in those provinces—that it is satisfactory to themselves, to the authorities, and to the people, and any assertion to the contrary must now be made in direct contradiction to the general and overwhelming evidence of all parties concerned.

11. I now come to another important question which may impede the trade in cotton, namely:—

A Contract Law to punish criminally fraudulent Breaches of Contract.

The evidence in favour of the enactment of such a law is all but unanimous. There is only one dissentient, and the opinion of that dissentient is no doubt entitled to high consideration, being that of a judge who has administered the law, and who has had long and varied experience of the people of this country. Before making any remarks I shall give extracts of evidence.

Mr. *W. Edwards*.

After giving his opinion that the rights of the people could not be invaded by settlers, I put before him the following question:—

Ques. "On the other hand, it has been asserted that the European capitalist would have no security for his advances, unless a contract law were enacted making a breach of contract a criminal offence. What is your opinion on this view of the case?"—*Ans.* My opinion is, that a well organized system of registration of contracts, by which I understand registration by European officers and not natives, would ensure ample protection to the capitalist. Under the improved system of civil procedure now in force, breaches of contract can be speedily and cheaply enforced; a contract law, making a breach a criminal offence, would, in my opinion, defeat its own object, as in these provinces no ryot would enter into such engagements."

Mr. *Hugh Maxwell*.

Ques. "What articles of native produce do you usually purchase?"—*Ans.* Indigo seed, saltpetre, hides, &c.

"Do you purchase these by contract under a system of advances?"—Yes, we purchase indigo seed by contract under a system of advances.

I.
India.

"Do the native dealers fulfil their contracts generally well?—Generally speaking, yes.
"In the event of a contract not being fulfilled, what is your remedy?—Our only remedy is the Civil Court, but its action is so dilatory that a decree, generally speaking, when obtained, is useless, as the defendant has had time to make away with his property if he has any; if he has none, there is no punishment that can reach him.

"You have heard of the contract law proposed by Mr. Beadon in the Legislative Council; do you consider that law necessary to secure the fulfilment of contracts?—I consider such a law most necessary for the protection of merchants, and I firmly believe that the existence of such a law, punishing criminally fraudulent breaches of contract, would operate very materially as a preventive to such frauds.

"Have you ever suffered any losses in your contracts with natives?—While contracting for sugar in the Azimghur and Ghazeepore districts, I have suffered severely by natives not fulfilling their contracts. A rise in the market value of sugar above contract rates was, as a rule, followed by breach of contract; and this happened not to myself alone, but to all Europeans engaged in the trade."

Mr. Sandys.

Ques. "You have heard of the proposed contract law, making fraudulent breaches of contract a criminal offence. What is your opinion of the utility or policy of such a law?—*Ans.* I consider that such a law would be beneficial for the protection of commerce; but it should be so enacted as to draw a very clear line of distinction between the breach of a contract under actual fraud, and the breach arising from uncontrollable accidents and unforeseen fluctuations of trade. It should also be necessary that all such contracts be registered at the time of being entered into before some responsible European official.

"Are there any obstacles or difficulties in the way of Europeans settling in the country as agents to purchase agricultural produce, such as cotton, &c.?—Were such a law as the one just referred to in force, I think it would remove the present existing objection on the part of European capitalists to make extensive advances for produce to native growers or dealers, for, without heavy advances, extensive mercantile transactions cannot be conducted.

"Is there no remedy for such breaches of contract at present?—The only remedy I know of is by an action in the Civil Court for damages, the result of which action, in many instances, being that the defendant proves ultimately unable to satisfy the decree obtained against him, having, during the pendency of the action, transferred his property to other parties."

Mr. John Nechtarlein.

Ques. "How do you carry on your indigo business?—*Ans.* I carry on my business chiefly by advances on contract.

"Do the contractors generally fulfil their contracts well?—Tolerably well if the season is good.

"In the case of a contractor fraudulently breaking his contract, what is your remedy?—My only recourse is to a civil action.

"And how does that act?—Most unsatisfactorily. After protracted litigation, and much annoyance and vexation, a decree is obtained; but by the time the decree is obtained, the fraudulent contractor has made away with his property, and I get nothing.

"Can you not seize upon his person?—Yes; but in that case I have to pay eight rupees a month for his living in gaol, two months of which have to be deposited in advance, and after six months the contractor is liberated by the authorities.

"Do the native contractors not feel the imprisonment as a punishment?—Far from it. They consider it an excellent livelihood, and nothing to do.

"What remedy do you propose for such a state of things?—I believe that only a contract law punishing criminally all fraudulent breaches of contract will remedy the present state of affairs.

"Do you think the knowledge of the existence of such a law would act as a preventive to fraudulent breaches of contract?—Yes, I think it would.

10. But the most remarkable testimony in favour of a contract law, and the inefficacy of the civil courts to provide remedies for breaches of contract in the present state of the law, is that given by natives. In taking the evidence of natives, it is necessary to be thoroughly acquainted with the native character. Unfortunately, they either suspect some sinister purpose on the part of the questioner, or the Government by which he is deputed, or they endeavour to discover what sort of answer would please the Sahib. In either case truth is not to be got from them. On the first point they must be thoroughly re-assured and satisfied of the object of Government: on the second, leading questions must be carefully avoided.

EVIDENCE of *Radalal*, Merchant and Banker of Etawah, and a large dealer in Cotton.

"*Ques.* How do you purchase your cotton, for cash or by advances?—*Ans.* Formerly I used to give large advances for cotton; but the people having become dishonest, I now only advance to a few buniyas whom I trust. My business is generally done by cash purchases.

"In the case of dishonest people not giving cotton for advances, had you no remedy at law?—We find too many difficulties and delays in the courts to resort to them. Our system is to cease doing business with those that cheat us.

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"Are there any obstacles to your trade in cotton?"

Here he gave a long reply about seizure of carts, conduct of zemindars when cotton boats took fire, &c.

"Is there anything you can suggest to me to facilitate your trade in cotton other than what you have stated about roads, impressment of carts, and injustice of zemindars?—Yes, we want a law to compel parties, to whom we give advances, to fulfil their contracts, and to punish criminally those who fraudulently evade their contracts.

"Have you heard that such a law was introduced by Government into the Legislative Council?—No, I have never heard of such a thing.

"Are frauds very common among people who take advances?—Yes, very common. About 10 men in 100 are honest.

"If such a law was passed, what in your opinion would be its effect?—The effect would be to put a stop to all such frauds. The cause of so many frauds is, that there is no punishment for them."

Lala Rambur, Goomashta or Manager of Cheyn-sook Buxeram, Merchant and Banker of Cawnpore.

Ques. "How long has your firm been established?—*Ans.* The firm has been established for 75 years.

"To what extent do you do business in cotton?—We do business to the extent of about four or five lakhs of rupees per annum.

"How do you purchase your cotton, do you advance to the growers, or do you purchase in the bazaars?—All our business is done by cash purchases in the bazaars.

"Have you ever advanced for cotton contracts to the growers?—We have not made advances for 30 years.

"Will you state the reason why you have not made advances for 30 years?—In consequence of the parties to whom we used to make advances delivering the cotton adulterated; or, if the price rose, fraudulently selling the cotton to other parties.

"Had you no remedy in such a case in the law courts?—We have sought remedies in the law courts and failed to obtain redress. We therefore never resort to them. In one case I was kept dancing attendance daily for six months, and in disgust abandoned it. It was our firm *v. Kasceram Gungadeen*."

John Charles Henry Alfred Peters, Indigo Planter and Zemindar in the Mynpooree District.

Ques. "How long have you been in the Mynpooree district?—*Ans.* I have been 19 years in the Mynpooree district.

"Have you been engaged at any time in the cotton trade?—I have been engaged some time in the cotton trade.

"At what price do you think the landowners and ryots could give their cotton, and be sufficiently remunerated?—I think they would be glad to give clean cotton at 10 rupees a maund of 100 lbs. weight, if they get cash advances for the same.

"Do you consider, under the present state of the law, there would be any danger in making such advances?—Unless there is a contract law to punish fraud there is danger in making such advances.

"What, in your opinion, would be the operation of such a law for punishing criminally fraudulent breaches of contract?—I think the operation of the law would be to check in a very great measure all attempts at fraud."

11. It is clear from the above evidence that the perfect impunity with which contracts are fraudulently broken, has made, to use the phrase of one of the native witnesses, the people dishonest. Self-interest alone makes the grower of cotton or the contractor adhere to his contract, for a breach of contract is followed by loss of business. But he becomes dishonest and perpetrates a fraud the moment that "sufficient inducement offers." It is evident that fear of the law does not enter into his calculations when he is meditating a fraud. If this is the state of things now, what may be expected if India becomes the great cotton supplier of England? It is usual to charge the people of this country with a greater amount of dishonesty in their business transactions than any other people in the world, or at least in the world of Europe; but if the petty traders and contractors of Europe could commit frauds with equal impunity from punishment, will any one contend that they would not do so? The fraudulent trader in England, to protect himself from the grasp of the law, must take refuge in the insolvent court. If fraud is proved against him he is punished criminally. In the capitals of the Presidencies there are insolvent courts where the fraudulent trader is punished, but in the vast area of the agricultural districts of India such courts are unknown, and fraudulent breaches of contract are daily committed with perfect impunity. I cannot agree with Mr. Edwards, that the enactment of a contract law would defeat its own object, and that the people would not enter into such contracts. I firmly believe, and I am borne out by the almost unanimous evidence of men of business in the country, native and European, that a contract law would act as a preventive to fraud. I believe that the native would take money advances and enter into contracts as usual, and that when the time came to fulfil his contract, and a temptation to break it presented itself, when he was balancing in the scale of his calculations whether it would be more to his interest to break the contract or keep it, the fear of punishment would turn that scale, and decide him to pursue the honest

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India.

honest course. A contract law, therefore, instead of being a hardship and a source of oppression, would be a blessing to the people and a source of permanent benefit to the whole mercantile and agricultural community. It would introduce confidence where distrust now only exists, and would lead to a largely extended business equally profitable to all parties.

12. The next question I shall consider, as bearing upon the production of cotton, and which has been much dwelt upon by the cotton manufacturers of England, as impeding its production, is the tenure of land. I shall first treat of—

The Redemption of the Land Tax.

13. In the permanently settled districts of Bengal it has been urged that a law to enable the proprietors of land to redeem the annual tax for ever for a fixed payment, estimated variously at from 15 to 20 years' purchase, would be productive of vast benefit to the country, extinguish the debt of India, and would lead to a great improvement in landed property, securing at the same time a certainty of tenure which could never be disturbed by fortuitous circumstances, such as dishonesty of agents failing to pay the land tax, or failure of crops rendering them or the proprietors unable to do so at the time required, and, above all, it would secure the loyalty of the people to England for ever. It is to be presumed that the redemption of the land-tax would also be extended to other parts of India where the settlements are not permanent but periodical, and in such a case a different scale of purchase must be adopted. How such a vast measure would be viewed by the people of India, who are holders of 99–100ths of the land (or more), or whether there is any probability of its succeeding, has never, I believe, been taken into consideration by its proposers. The first point that must be considered is, have the natives of India that faith in the power and permanency of our rule to lead them to disburse such enormous sums as would be required to redeem the land-tax? If not, an act to enable landowners to redeem the land-tax would be a failure. Four years have scarcely elapsed when they saw our power hanging by a thread. At one period of 1857 there was scarcely a native in the country that did not consider our raj, or rule, terminated. Even now rumours and prophecies of our expulsion or extinction are constantly floating through the land, and, absurd as they are known to be by us, they are not looked upon as improbable by the people of this country. I have a very strong conviction that such a measure would be a failure, and not only a failure, but would lead to all kinds of suspicions regarding our real object, and unsettle the minds of the people, sufficiently unsettled already by income-tax, paper currency, &c. I admit the strength of many of the arguments in favour of such a measure; but the question is not how we may view it, but how the natives view it, for it is with their view, and not with our view, that the success of the measure lies.

14. The success or failure of such a measure, however, would not, as far as I can see, increase or diminish the production of cotton. It appears to me to have no relation to it whatever. If the cultivation of cotton would pay the landowner now, he would grow it; if it does not, he won't grow it; under whatever tenure he holds his land, he endeavours to make the most of it. It would surprise the cotton manufacturers, if their demand with regard to the redemption of the land-tax was complied with, to find themselves exactly where they were, to find that they had not made one step in advance; and that the landowner, under the new tenure, remained quite as indifferent to the cultivation of cotton as before. Other and very different causes must be at work before a stimulus is given to the cultivation of cotton than the redemption of the land-tax. I now come to—

The Tenure of Lands in the North West Provinces.

15. The North West Provinces are divided into zillahs or collectorate districts, and the settlements or assessments of land revenue are made for 30 years; at the expiration of the 30 years the districts are re-surveyed and re-settled. All the improvements that have been made by the landed proprietors, such as cultivation of barren and unassessed lands, construction of wells, &c., and the proximity of canals, are taken into the calculations of value of assets or estimated productive power of the lands, and the revenue is increased accordingly in the new settlement. As these settlements have been made at different periods, every fifth or sixth year some district falls under settlement, so that residents in the provinces have periodical opportunities of seeing and judging of the working of the system; this system has been highly lauded by its originators, and triumphant stress has been laid upon its "elasticity," enabling the Government to take advantage of the improvements made by the people, and periodically raising the revenue. My opinion of it is, and always has been, that it is injurious to the country, unjust to the people, and unwise in a political point of view.

16. It is injurious to the country because there is a great reluctance on the part of many landowners to sink expensive wells, to bring barren lands into cultivation at great trouble and cost, which only leads to a proportionate increase in the revenue they have to pay. I have, on numerous occasions, when I have suggested to zemindars the advantage of building wells in particular spots, or pointed out the facility of bringing certain barren lands into cultivation, been met with the objection that their revenue would be increased. Many do make improvements, but many do not, and it may safely be asserted that when a district approaches to within five or four years of the expiration of the settlement, all improvements cease. In the district of Allyghur, which will be re-settled in four years,

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I have it on evidence that many zemindars will not take water from the canal, nor permit their assamees or tenants to do so, as they fear the increase of "Jumabundee" or revenue assessments in the approaching settlement; it is clearly, therefore, injurious to the country as impeding to a considerable extent its improvement.

17. It is unjust to the people, because they see their fellow subjects of the Presidency of Bengal, of a territory touching their own, enjoying the great advantages of a permanent settlement, advantages which are denied to them-selves. They constantly hear that it is the fixed determination of the Government, a policy from which it will never swerve, to maintain the most strict equality between all Her Majesty's subjects; but in so vital a point as equality of taxation, that policy, as regards themselves, is entirely departed from. They find themselves reserved for periodical increases of taxation, as far as their elastic powers will endure them, while their more fortunate fellow subjects are favoured with a fixed taxation in perpetuity, and have the satisfaction of knowing that the fruits of their labours and improvements will be inherited by their children. The injustice of the system cannot, I think, be made more manifest.

18. In a political point of view it cannot be wise to keep a people in a state of chronic discontent, in a state that leads them to look upon any change of rulers as a probable improvement of their position. A permanent settlement of revenue may not be so powerful to bind the people to our rule as an absolute sale of the lands or redemption of the land tax (which I have already stated my belief to be impracticable), but it would act as a very strong incentive to loyalty. The people would argue, and they are shrewd enough to do so, that a fixed permanent land-tax would be the maximum they would ever have to pay. They have seen, in the case of the permanent settlement of Bengal, the scrupulous adherence of our Government to its engagements under all financial difficulties, and frequent and urgent pressure to cancel that settlement. They have therefore the most perfect faith in the permanency of a settlement if once declared by our Government. But in the event of a change of rulers they would know that the maximum of the British Government would be the minimum of any other Government, the basis upon which it would estimate a land-tax, with the will and power to increase it, without being bound by any previous engagement.

19. The Government of the present day has recognised the fact, that the elastic principle of taxation has been too severely strained. In the old settlements the principle adopted was to calculate the assets, or average rent value of a village, and assign one-third to the proprietor, and two-thirds for revenue. The principle now adopted in the new settlements is half assets, one-half to the proprietor and one-half for revenue. This is assuredly a very great improvement on the past, and if the Government would but make that settlement permanent it would rejoice the hearts of the whole people, remove every vestige of discontent, and lead to great improvements of the cultivated land and extensive cultivation of the barren lands. Nothing can be more disheartening to a people than to know that taxation is perpetually treading, if I may use the expression, on the heels of improvement, that all their labours and improvements lead only to a further tightening of the elastic bonds with which they are bound. Under this system their means are exhausted to meet the exigencies of the hour. They cannot reserve a provision for a rainy day, or rather, in this case, for days without rain. A drought comes—not unexpected, for although uncertain as to time, droughts are periodical, and the elastic bond, like an overstrained chord, bursts asunder. The whole system collapses, enormous sums are lost to Government in remissions of revenue, famine and death desolate the land and depopulate the villages, and the charity of India and England is appealed to, to save the people from starvation. I believe a permanent settlement, on the half asset principle, would go far to mitigate the evils of these periodical calamities, and save the people from falling into such utter and helpless misery as they now do when they occur.

20. As bearing upon the production of cotton the question is of great importance. We have cheap and abundant labour, but heavily assessed land, with liability to be increased, places these provinces at great disadvantage with other parts of India, and other parts of the world. For a steady and permanent trade in cotton, capital must be invested in buildings, hydraulic presses, &c. Capitalists will be reluctant to do so under the present uncertainty of revenue taxation. Every consideration, therefore, political, social, and commercial, points to a permanency of settlement as of paramount importance, as a measure combining justice to the people with safety to ourselves and prosperity to the country.

Sale of Waste Lands in Fee Simple.

21. On this subject I shall be very brief. The principle of selling waste lands in fee simple has been admitted by the Government of India, and the only question that remains is the terms and conditions on which such sales shall be made. I notice the subject merely to make a statement regarding the cultivation of cotton on waste lands. I have previously given it as my opinion that Europeans would not be able to cultivate cotton to any large extent in the densely peopled districts of India, but this does not apply to the waste lands. Where waste lands are available there is usually a very scanty population, and labour has to be drawn from a distance. Cotton plantations could then be easily protected from the depredations to which they would be exposed in densely peopled districts. In the Soonderbuns, the Chittagong Hills, the Assam forests and hills, the waste lands of Oude, &c. &c., I believe that Europeans could establish large cotton plantations without fear of their being

I.
India.

plundered. If these lands are sold in fee simple, and a fair demand for cotton from England springs up, I believe that many companies will be formed, and cotton will be produced to a very considerable extent. It may be useful to state that all those who understand tea planting would make good cotton planters. The cultivation of the trees is exactly similar. Tea seed is sown in lines four feet apart and three feet distant from each other. Cotton seed ought to be sown in the same way, with perhaps one foot less in the distance from each other. The same operations of weeding and hoeing required for tea are required for cotton. Both trees have lengthy tap roots that penetrate deep in the soil, both require a porous and deep soil, and flourish vigorously under irrigation, or a showery climate that keeps up the moisture without flooding them, and both sicken and die when long inundated. There are now in India many tea planters and their assistants living in the neighbourhood of waste lands, and no men are better qualified than they are to manage cotton plantations, either for themselves, or for companies that may hereafter be established.

Cultivation of Exotic Cotton.

22. I have no doubt from the plants of Egyptian and New Orleans cotton that I have seen in different parts of the Doab, that climate and soil are well suited to their growth, and that wherever failures occur they are to be attributed either to bad seed, or unskilful culture, more frequently to the latter. A planter at Mynpooree informed me that he had received a supply of New Orleans seed from the Agricultural and Horticultural Society, that he had sown some hundreds of beegahs, but that none of it had germinated. He said this had greatly discouraged him and many native zemindars, who were watching the experiment, and they had all come to the conclusion that the soil and climate were not suited to that kind of seed. On inquiring how he had sown it, I elicited from him that by the advice of a native he had steeped the seed in hot water. He admitted that he had not superintended the sowing of it himself, and could not say how hot the water was. I travelled to Futihgurh and visited a small plantation of Mr. F. C. Bryant, who had been supplied by the same society with the very same seed. The whole of it had germinated well, but here again want of knowledge had led Mr. Bryant to the conclusion that soil and climate were not suited to the plant, as it was sickly, yellow, and stunted. The seed was sown with the first rains in June, and to the day that I saw the plantation (the 5th August) the soil had never been disturbed by hoe or plough. The soil of the field had been beaten hard by the rain, and baked by the sun. The plants were strangled by the hardness of the earth around them, and maintained a sickly and feeble existence. Mr. Bryant candidly admitted that he did not know that the soil ought to be turned up. I directed him to do so at once, and report to me the result, but as yet I have not heard from him.

23. I have written to the Secretary to the Agricultural and Horticultural Society to request all parties to whom he distributes seed, to furnish reports of the results, and, when failures have occurred, to detail the method of culture employed. It is melancholy to think that soil and climate should be condemned where want of skill in culture is the sole cause of failure. Where I am writing at this moment there is within view a field of magnificent cotton trees from New Orleans seed belonging to Colonel Turnbull, and although they have not been cultivated as they might have been, the trees having been allowed to run too much to wood, they demonstrate by their size and vigorous growth how well climate and soil are adapted to the exotic plant.

The Canals of the Doab.

24. One of the almost, if not wholly insurmountable difficulties of the Government of India is to protect the people, not against the European settlers, but against their own countrymen. The whole of the lower classes of the native executive, the police, the employés of the civilian or planter, the overseers and understrappers of public works, &c. are constitutionally and professionally corrupt. Every man of these classes is open to bribery, and, where bribes are not tendered to them, they are oppressive to an almost intolerable degree. In no class of works has this melancholy truth been more exemplified, and in no class of works have the opportunities for bribery or oppression been more largely afforded, than in the canals of the Doab. When we consider the extent of these canals, and their numerous rajbuhars or branches, and that the measurements of the lands irrigated by them are made by a vast number of moonshees, zillahdars, and choukeedars, and that one rate per beegha is paid for grain, and nearly double these rates per beegha are paid for cotton, indigo and sugar, and that the average of the whole is about one rupee per beegha, it will be seen what a vast field is opened for corruption and oppression. I will give extracts of some of the evidence taken by me in different districts.

John Charles Henry Alfred Peters, Zemindar of Mynpooree.

Ques. "In what part of the district do your estates lie?—*Ans.* My estates lie between the canals of Etawah and Cawnpore.

"Do you find the canals useful to you?—Not in the least, their existence is an evil.

"What are the specific grievances you have to complain of?—When we want water we can't get it, and there is great extortion on the part of the native subordinates of the canal, the moonshees and zillahdars. The rates charged are also very high, and when our crops are sometimes destroyed by inundations from the canal outlets we only get very little compensation, and one-fourth is openly taken by the moonshees as their dustooree or perquisite.

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"Are the complaints that you make general in the district among the native landowners?—They are general. Hundreds of petitions have been given by natives to the Collector, detailing their grievances, but they get no redress.

"What remedy would you propose for their grievances?—The remedy I would propose is to place the distribution of the waters under the collectors of the districts, in which case the whole would be properly managed, and the profit to Government would be much greater.

"When you have any complaint to make of want of water or damage, to whom do you make it?—We make the complaint to the Collector of the district, who refers it to the Canal Superintendent, and his report is always in favour of the canal management, and we get no redress."

William Martin, an Indigo Planter and Zemindar of Mynpoorie.

Ques. "WHERE are your estates?"—*Ans.* "They are in the neighbourhood of the Ganges Canal."

"Do you derive much benefit from the proximity of the canal?—Not so much as I ought to do.

"In what respect does the canal fail you?—First, want of rajbuhās, or canal branches for irrigation; second, from the bad management of the people in charge; and third, from want of supply of water when required.

"What remedy would you propose for this state of things?—A complete change of system, and a more careful supervision. The moonshees also, who are all natives, are guilty of great oppression. In measuring the lands that have been irrigated, if they are not bribed, they make returns in excess of the lands irrigated. On the contrary, if they are bribed, they return less than the lands irrigated. I think that the charge for irrigation of indigo and cotton is too high. It is nearly double the charge that is made for grain, and I see no good reason for such a difference."

25. The evidence of Mr. Kearney, an indigo planter in the Allyghur district, who resides in the neighbourhood of the canal, was to the same effect, and his proposed remedy was to place the collection of the canal revenue in the hands of the collector of the district. The native zemindars declined to give their evidence if I took it down in writing, as they said if they displeased the Government their estates would be confiscated. I made many verbal inquiries in the Allyghur and Boolundshuhur districts. I rode along the canals and rajbuhās, and questioned many zemindars. The general evidence was, that the working of the canal was exceedingly unsatisfactory; that the native moonshees and zillahdars were corrupt and oppressive, and that their complaints were not listened to. They said that the canal officers were chiefly young men, engineers or officers appointed from regiments, who have no consideration for the native agriculturists, and will not listen to their complaints. The consequence is, that there is much oppression and fraud, and many zemindars will not take water. The general opinion regarding a remedy was to place the water supply entirely in the hands of collectors of districts, who could detect false measurements and false representations, and who have every consideration for the agricultural class. The zemindars also complained of an illegal and extortionate practice. They were compelled to pay one rupee a beegha for all the grass grown on the side of the canal, and numerous rajbuhās, whether they wanted the grass or not. In the Meerut district the collector informed me that the complaints of zemindars were few and trifling. In the Moozuffurnuggur district, Hurgolal, a cotton dealer and zemindar, said of the canal management, that the understrappers are exceedingly corrupt. The chowkeedars, whose pay is four rupees a month, make from 30 to 40. If they are not propitiated by bribes, or supplies of food for themselves and their cattle, they withhold the supply of water, or they bring charges against the zemindars of damage to canal property, and report a larger area irrigated than has been irrigated. He stated that native deputy-collectors have been known to apply for the situation of chowkeedars for their sons. Hoossain Ulee Khan, a large zemindar, gave evidence to the same effect. He further stated, that the young sahibs employed would not listen to their complaints, nor even the superintendent of the district. Colonel Turnbull, the Superintendent General, he said, always listened to their complaints; but he has no time to attend to all, nor can the zemindars go the distance required to see him.

26. In these statements there may be much exaggeration, and no doubt the canal managers have to struggle against attempts on the part of zemindars to commit frauds on their side, which they are quite ready to do; but enough remains to show that some reform or change of system is required. I approach this part of the subject with great diffidence, for I do not pretend to have studied it sufficiently to give any decided opinion as to what that reform ought to be. It appears to me, that if any system could be devised that would enable the canal authorities to dispense with the army of understrappers that are undoubtedly the causes of the mischief, that system ought to be adopted.

27. Many have proposed that the levying of the canal revenue should be entrusted to the collectors of districts, but it appears to me the same system of measuring the lands would remain, and collectors of districts have no more power to control bribery and corruption among the native executive than the canal authorities.

28. The system of contract irrigation, that is, that each village should pay a certain sum for its supply of water, or so much per outlet, has been recommended as a remedy for the

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India.

evils complained of. This system has been adopted to some extent already, and if it could be carried out in entirety, it would appear to secure the required object of dispensing with the measurements of lands.

29. There is another system which has suggested itself to me, on reading some of the new settlement papers of the district of Boolundshuhur (copies of which I have received as a zemindar). The following is a copy of the settlement of one village:—

Jutola.

"This village has the canal running right through it, and a channel whence the whole area to the north of the canal can be well and fully irrigated. The lands are also very good, and the rent-roll this year, under direct management, at rates more liberal than the zemindars can give, is 1,856 rupees. Hence it is plain that there is no use in decreasing the present jummu (revenue), but that, on the contrary, it will bear raising, as there is much land still to be brought under the plough, and great room for improvement. The rates are therefore much too low. I fix the new jummu at 1,000 rupees, with one chowkeedar at three rupees per mensem.

"G. H. Freeling,
Collector."

"15 March 1861.

30. Under the half asset settlement the revenue of this village ought to have been fixed at 928 rupees. A sum of 72 rupees in excess, or 7 per cent. on the revenue, has been added on account of the proximity of the canal. It may be said that this is not much, but when it is considered that the zemindar has to pay for his water also, it is not a small increase. But I wish to draw attention to the principle involved, and to the fact of the increase, and I would argue that if 7 per cent. can be added to the revenue on account of the proximity of the canal, why should not a larger percentage be fixed, and water be given to the village *ad libitum*?

31. It may be said that the zemindars would not agree to it; but I will show that this argument is not tenable. The zemindars are so wedded to their properties, that they bear the severest taxation rather than reject a Government assessment, which involves a temporary deprivation of their zemindarees. They endure even the most marked partiality or inequality in assessments rather than reject them. I will give an instance of this. The districts of Allyghur and Boolundshuhur adjoin each other, and the divisional line drawn between the two may be compared to a line traced through the centre of a sheet of paper. There is no difference between the parts divided, and between the soils and climate of Allyghur and Boolundshuhur there is so little difference that there ought not to be one anna per acre of variation in the assessments. Yet what is the fact? The district of Boolundshuhur was assessed by a collector who regarded the people as well as the revenue, and the rate per acre of total cultivation at the last settlement was fixed at Rs. 1. 9. 5. The district of Allyghur was assessed by a collector whose object was to improve the revenue, and the rate assessed per acre of total cultivation was Rs. 2. 2. 5, an excess of nine annas per acre, or more than one-third, or 33 per cent. on the Boolundshuhur rate. Yet the zemindars of Allyghur accepted the situation, and made no remonstrance. If they do so, in cases of such manifest injustice, how much more readily would they assent to an assessment which would be so profitable to them as a water rate securing a supply of water? Again, it may be argued that the canal cannot always supply water, or enough of water to satisfy the zemindars, and that they would constantly be making claims; but it is not necessary in the proposed arrangement that there should be any obligation on the part of Government to give a constant supply of water. All that Government would undertake to do would be to endeavour to keep a full supply of water in the canals.

32. The advantage of this system would be, that, in addition to dispensing with the services of the native measurers of irrigated lands, the zemindars would be compelled, in a manner, to use the water, which many of them at present decline to do. As the payment for the water would be fixed in their revenue settlement, they would undoubtedly avail themselves of it to the utmost extent possible, and the improvement of the country and wealth of the people would be increased accordingly.

33. I repeat that I put forth these suggestions with diffidence, and more especially as I understand that Colonel Baird Smith, who is far more competent than I am to deal with this subject, is writing a report upon the canals. I record them, however, as they have occurred to me, and they might possibly prove useful. There is one point, however, upon which I have no doubt, and which is confirmed by the evidence taken by me from zemindars, and that is, that Colonel Turnbull, Superintendent General of Irrigation, should be relieved entirely from his onerous duties at head-quarters for four months in the year, and thus be enabled to visit the canals and their numerous branches, and rectify as much as possible the evils complained of. Many of the old canal officers were killed during the mutinies, and their places have been filled up by young men, who certainly would be improved by a visit from the superintendent. The zemindars, too, would gather more confidence when they found that their grievances were listened to by the chief, who could and would redress them, while the army of buibe-takers would be correspondingly dismayed. Any extra expense attending such an arrangement would be largely defrayed by the increase of canal revenue, which would be its certain result, while the benefit to the people would be as great as the removal of causes of discontent would be satisfactory.

34. The

34. The Doab is irrigated by the following canals :—

35. The Eastern Jumna Canal, which commences at Fyzabad, near the Sewalick range, runs nearly parallel with the Jumna, and falls into that river, near Delhi. This canal has numerous branches, and last year irrigated 227,489 acres of land, the produce of which is valued at 60 lakhs of rupees.

36. The Ganges Canal commences at Hurdwar, and runs through the centre of the districts of Moozuffurnuggur, Meerut, Boolundshuhur, and Allyghur. At Nanoo, nine miles beyond the town of Coel, the capital of the Allyghur district, the canal is divided into two nearly equal branches. The first runs through the Allyghur, Mynpoorie, and Cawnpore districts, emptying its waters in the river Ganges, at Cawnpore. The second runs through the Allyghur, Mynpoorie, and Etawah districts, emptying its waters in the river Jumna, near Calpee. These canals have numerous branches running parallel to them, and extending on either side to distances varying from five to ten miles. There are under construction two new branches, one called the Futiaghurh branch, which leaves the main canal at Jowlie, about 50 miles below Hurdwar, and when completed, it will empty its waters in the Ganges, near Futiaghurh. It is nearly completed for 40 miles. The other is called the Boolundshuhur branch, which has been only recently commenced. It commences near Dasna, and will be carried to a point near the river Jumna, not yet determined upon. The Ganges Canal, with its branches, may be said to be in its infancy, but year by year it is gathering strength, extending its field of action, and largely increasing its revenue. Last year the area irrigated was 205,328 beeghas, and the income amounted to 305,096 rupees.

37. It has been asserted that these canals are a gigantic failure; but this is the assertion of malice or of ignorance. It will be readily admitted that the country has not profited so much by them as it might have done, and will yet do; but that they have proved of incalculable benefit, that last year they saved to a great extent the people from a repetition of the sufferings and mortality of 1837-38, cannot be denied. The fact of the numerous complaints of zemindars, and of their charges against the native executive of the canals, proves the extent to which they avail themselves of the water, and the high value they place upon it.

Roads in the Doab.

38. The railroad from Allahabad now extends as far as Etawah. To that point from the Sewalick range there is a network of roads, some metalled, many unmetalled, that renders the conveyance of cotton from all parts of the Doab, in common country carts, easy and cheap. The roads are metalled from Futiaghurh on the Ganges, to Mynpoorie and Etawah; from Muttra on the Jumna, to Hatras; from Muttra to Allyghur; from Delhi to Allyghur, &c. The Grand Trunk Road runs through the centre of the Doab, and there are numerous unmetalled roads falling into it. I have had no complaints from cotton merchants regarding the roads, and I have not had occasion to address any communication to his Honor the Lieutenant Governor on this subject. Wherever the metalled roads were injured, they were being rapidly repaired when I traversed them. In the matter of roads there is no impediment whatever to the trade in cotton, so far as roads in the Doab are concerned. The important question will be to carry the cotton from the Doab to Calcutta, and this will be done by the railroads, which are making rapid progress. As there is no demand at present for cotton from England, and as it is impossible to say when that demand may arise, if it does arise at all, there does not appear to be any pressing necessity for railroad communication. Possibly that communication may be completed by the time that a demand for cotton arises.

Impressment of Carts.

39. I have to record but one more obstacle to the trade in cotton, and that is the seizure of carts laden with cotton, for the wants of Government. The complaints of cotton merchants on this subject are great and universal. The chuprassees employed by native functionaries to collect carts for governmental purposes, as usual, make a harvest out of the operation. When they find a string of cotton-carts they seize upon them, and, if not bribed, throw the cotton on the road and take away the carts. The usual payment to release the carts has been stated to me to vary from eight annas to one rupee per cart. I record the fact as stated to me by many cotton merchants, but I am not prepared to point out any remedy. The native functionary will oppress the people whenever he has an opportunity.

Concluding Remarks.

40. His Excellency the Viceroy and Governor General in Council will perceive, from all the information derived by me, from the cotton merchants of the Doab, and Europeans generally, that there is no real obstacle to the trade in cotton, and that when a demand for it arises, it can be supplied to a very large extent. I have not given any statistics of the quantity of cotton produced in the Doab, as I could obtain none that could be relied upon; and, if I had obtained reliable statistics, they would not have afforded any criterion of the quantity that could be produced if a demand arose. It may almost be said that the supply would only be limited by the demand, so large is the field of production. Improvements in the shape of a contract law, permanent settlement of revenue, and a change of system of canal

I.
India.

canal management, would facilitate, not only the trade in cotton, but the trade in all agricultural produce. Frauds would be prevented or punished, opportunities for bribery and corruption would be largely removed, the country would be greatly improved, and the people would prosper and be contented.

I have, &c.

P. Saunders, senior.

— No. 25. —

REVENUE DESPATCH to Government of India, No. 30, dated
3 December 1861.

Para. 1. I HAVE had under my consideration in Council, your Excellency's letters in this department, dated the 13th August and 1st October last (Nos. 13 and 17).

2. I shall not withhold my sanction from your resolution of the 9th August last, by which you have offered prizes of 10,000 rupees each for the production, under certain conditions, of cotton of improved quality, during the present and the next season in the Presidencies of Bengal, Madras, and Bombay. You will of course inform me of the result of this measure, from which, however, I expect but little success, as I cannot anticipate that the institution of these prizes will lead to the production of an article of such quality and at such a price as will suit the cotton market in this country, when the stronger stimulus of private interest has failed to induce the cultivator to do so.

3. I have perused with much interest the report by Mr. Paterson Saunders, a gentleman entirely unconnected with the public service, on the cotton districts of the territories lying between the Jumna and Ganges, and on the obstacles which impede the trade in cotton there; and I have caused a copy to be forwarded for the information of the Cotton Supply Association of Manchester. The report touches on many topics of great importance; but, as you have abstained for the present from offering any opinion on Mr. Saunders's suggestions, pending the receipt of the observations which the Lieutenant Governor of the North West Provinces has been invited to submit to you, I shall reserve any remarks which I may desire to make on the report generally until I shall be in possession of a further communication from your Government on the subject.

4. There is, however, one point to which I desire to call the immediate attention of your Excellency in Council. One of the obstacles to the trade in cotton, which is put prominently forward in the report of Mr. Saunders, is the seizure, by native officials, of carts laden with cotton, for the real or alleged requirements of Government, their release being to be obtained only by the payment of heavy bribes. The impressment of the means of carriage for public purposes can only be justified under circumstances of pressing emergency; and I have to request that you will instruct the Lieutenant Governor of the North West Provinces, to ascertain whether there is any sufficient foundation for the complaint, and, if he should find it to be based in truth, to take immediate and stringent measures for putting a stop to so objectionable a practice.

5. Among the facts placed on record by Mr. Paterson Saunders, it is satisfactory to me to find that, so far as regards the districts over which his inquiries extended, the European "merchants and planters, to a man, repudiated any hostility on the part of the civil authorities, or any discouragement to their settlement in the country," and that the roads generally throughout the Doab were in so good a condition as to offer "no impediment whatever to the trade in cotton."

6. I take this opportunity of acknowledging the receipt of the letter from your Excellency in Council in the Foreign Department, dated the 10th April last, No. 30, with which you forward papers containing information relative to the cultivation of cotton in the Hyderabad territory, which has been furnished to the Manchester Cotton Supply Association by the Resident with the Nizam.

— No. 26. —

I.
India.

Public Works Department.—Public.—No. 55 of 1861.

COMMUNICATIONS.

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B.,
Secretary of State for India.

Sir,

Fort William, 20 August 1861.

We have the honour to transmit the accompanying special narrative* from the Government of Bengal, on the subject of improving communications leading to the cotton growing districts in Bengal, in order to facilitate the transport of the article to ports of shipment. Should we have any comments to make on the subject, they will follow by a subsequent mail.

* No. 6 of 3d Aug.
1861.

We have, &c.

Canning.
H. B. E. Frere.
R. Napier.

Enclosure in No. 26.

(No. 6.)

Government of Bengal.—Special Narrative.

Public Works Department, Fort William, 3 August 1861.

HEREWITH is forwarded, for the perusal of the Right Honourable the Secretary of State for India in Council, the annexed correspondence on the subject of improving communications leading from cotton growing districts in Bengal.

Transmitting Correspondence on the subject of improving communications leading to the cotton growing districts in Bengal.

2. A copy of the orders which have been issued to the Board of Revenue, Lower Provinces, inviting an expression of the opinion of the Commissioners of Revenue as to the possibility of increasing the growth of cotton, was forwarded to the several superintending engineers of the public works circles in Bengal, with a request that they would submit an early report in regard to the district communication, with suggestions for the improvement of any particular roads by which it was thought that the transit of cotton may be facilitated.

P. W. Pro. for July 1861, Nos. 17, 37, 52, 55 and 181-83.

3. Having taken into consideration the reports furnished by the superintending engineers, the Lieutenant Governor has passed orders as follows:—

BEHAR CIRCLE.

4. An estimate to be submitted for making the existing track between Chuttra and Chumparum, on the grand trunk road, a good road for cart traffic. A survey to be made for lining out a cart road to start from Taldondah, on the grand trunk road opposite to the terminus of the railway extension on the Burrakur River, through Purulia to Chyebassa in Singhboom. These roads will allow of the cotton brought to Chuttra, and of the cotton grown in Singhboom, being conveyed to the grand trunk road and railway.

NORTHERN CIRCLE.

5. A survey to be made for a line of road from Pulsa to Nonihaut, also from Taljeera to Burhait. Reports to be submitted on a survey from Bahawa to Burhait, and on the state of the Soree and Bhaugulpore road.

CUTTACK CIRCLE.

6. An estimate to be furnished for constructing an Imperial road from Cuttack to Sonopore, a rising mart at the turn (northward) of the Mahanuddy River, arrangements being made for commencing as soon as possible that portion of it which lies over the Burmool Pass, at an estimated cost of 8,200 rupees, the construction of which was sanctioned by the Lieutenant Governor. The superintending engineer was required, in connexion with this survey, to submit a report, accompanied by an approximate estimate, showing the cost and advantage of extending this line of road from Sonopore to the Cuttack and Sumbulpore road; and he has also been desired to make arrangements for reconnoitring and obtaining a rough survey of a road which has been talked of from Sumbulpore to Chunderpore, provided cotton fit for exportation is produced at Chunderpore.

I.
India.

7. With reference to a suggestion made by the superintending engineer of the Cuttack Circle for the construction of two roads from Dantoon, on the Midnapore and Cuttack road, to the Balliaghye River, and from Kasharee, further on the same road, to Debra, on the road between Midnapore and Calcutta, in order to assist cotton on its way from the districts to the westward of the Cuttack Imperial road, the Commissioner of the Burdwan division was requested to offer such remarks as he might wish to make on the utility of making these cut-off roads.

8. The attention of Government having been drawn by the officiating superintendent of tributary mehals, Cuttack, to the navigation of the Mahanuddy, for the purpose of improving the means of communication, and thereby increasing the supply of cotton, the superintending engineer has been authorised to expend a sum not exceeding 2,000 rupees in the removal of seven very serious obstructions to the navigation of the river in question.

9. Instructions have been issued to the superintendent of Darjeeling to state the probable cost of making the roads noted in the margin.*

J. P. Beadle, Lieutenant Colonel,
Officiating Secretary to the Government of Bengal,
in the Public Works Department.

From *H. D. H. Fergusson*, Esq., Commissioner of the Patna Division, to the Secretary to the Government of Bengal (No. 77, dated 30 May 1861).

DURING my late inquiries on the subject of the supply of Indian cotton to England, I received the following suggestions for improving existing means of communication.

2. Mr. Bingham, the planter of Chynepore in Shahabad, proposed opening a line of road "to connect the town of Chuckeeah, in the Mirzapore district, with Hatta in the Shahabad district;" adding, that "it would join our system with the Mirzapore lines, and complete the short cut for the heavy cotton traffic from the Mirzapore district to join the grand trunk road, saving some thousands of carts annually some 40 or 50 miles distance."

3. With reference to this proposal the magistrate of Shahabad reports as follows:—

"The road which was proposed by both Mr. Bingham and myself as most quickly and easily made available is that between Chuckeeah, in the Mirzapore district, and Hatta, in Shahabad. There is a road from Ahrorah to Chuckeeah, and the former is a large mart. The proposed road would connect the communication of the Mirzapore district with that of Chynepore. Mr. Denison, the magistrate of Mirzapore, thinks the road could never be of use, because of the steep banks of the Kurumnassa which the road crosses near Mughrer. In this I disagree with him. The banks, though steep, can easily be sloped off; they are not worse than those of the Doorgowtee and other streams, across which the fair weather roads in the south and west portions of the district are constantly carried; and my own recollection of the passage is, that (as the banks were even in February last) a buggy might have crossed without difficulty. The length of the road would be about $13\frac{1}{2}$ * miles, of which $5\frac{1}{2}$ belong to Shahabad and about seven to Mirzapore."

4. Mr. Bingham also suggests "a road from Sasseram across the hills to Bidjeygurh, whence there is a road joining the great Deccan road. This line would not be a different one, and it would be of incalculable benefit, not only in opening out a new and near line for the great cotton trade of Central India, but also opening out the interior of the Kymore range."

5. Regarding this proposal the magistrate of Shahabad reports as follows:—

"The second line is that proposed by Mr. Bingham from Bidjeygurh to Sasseram. The advantage of this line would be that, besides connecting this district with Chota Nagpore, it would open out the *terra incognita* of the table lands. I would remark that these table lands form a plateau of from 600 to 800 square miles of tolerably level land, broken only by valleys through which rivers run, and that, once having ascended the face of the hills, a man may go nearly 20 miles across level country in any direction before having to descend. The hills are inhabited by a scanty population, who bring their produce down to the plains either on their heads or bullocks; a certain portion of the land is cultivated, the tusser worm flourishes there, and the well known musk rice is principally grown there; the cattle come to pasture there from immense distances, and the passes over the hills are the regular runs for the cattle thieves. With a larger supply of labour these huge tracts are capable of great development, and for all these reasons I think the proposition of a cart road across the hills a most valuable one, both for commercial and also for public purposes.

"The

* 1. From Mattigurha to Gorawara and the Teesta River. 2. From Garidhoora to Titalya *via* Ramdangah and Phansedewa. 3. From Nakiswarbary on the Mechi River to the Darjeeling Road near Beebatti.

* Strictly 72,400 feet.



Appendix (A).

P.W.D. Pro. for July 1861. N^o 20.



"The difficulties, however, are great; to carry a road up the steep face of a range of hills to the height of 1,200 feet (above the sea) is a more expensive work than our local funds could afford; and it is also doubtful if the Mirzapore authorities would agree to making the road down the other side. If, however, the Government would help us by making the ghats up and down, the local funds might bear the burden of the road through the level country and across the table land.

"The road, then, proposed by Mr. Bingham from Bidjeygurh should go from there to the Barogaon Chowkey, and thence follow the cattle run marked in the sketch as Doosey Ghat, which descends the hills on this side. Again, at Baugwanpore, near the Masye factory, from which place a very decent fair-weather road already runs *viâ* Bhubooah, to Jehanabad on the grand trunk road.

"I would remark here that I have no certainty of the roads about Bidjeygurh leading from the south, and the position of the place itself is obtained from somewhat unreliable plans; but it is quite exact enough to show the line the road would take across the hills. If once we had this main road across the hills, other tracks might be opened out afterwards to the Ramghur Pass on the west, and the Kotah Pass near Sasseram on the east, both of which are easy of access, and much lower than the Doosey Ghat."

6. A third proposal is "to continue the present road along the bank of the Soane, past Akburpore and Urgoorah, to Bidjeygurh, in the Mirzapore district."

7. The road alluded to in the previous paragraph is that running from Dehree Ghat (on the Grand Trunk Road) along the left bank of the Soane to Akburpore, near Rhotas. Regarding this line, the magistrate says that "from want of any map of the Mirzapore district, he is unable to do more than suggest an investigation of its practicability."

Mr. Bayley adds that "if it is feasible to connect it with Bidjeygurh without going over any hills, it would be an immense help to communication, at a very small cost."

8. I bring these suggestions to the notice of Government in hopes that it may be considered advisable to depute an engineer to report upon the proposed lines of road. The line from Sasseram across the hills to Bidjeygurh is, in my opinion, by far the most important, and it would open up a country of which we are at present utterly ignorant.

9. I forward a rough sketch, showing the places to which allusion has been made in this Report.

Plan.

See APPENDIX (A.)

MEMORANDUM from Lieutenant-Colonel C. B. Young, Chief Engineer, Lower Provinces, (No. 1201, dated 25 June 1861).

THE chief engineer, Lower Provinces, has the honour to submit, in original, for the consideration and orders of the Honourable the Lieutenant-Governor of Bengal, the documents noted in the margin, being Reports from certain of the superintending engineers in the Lower Provinces, regarding the improvement of internal road communications, in connexion with the question of supplying cotton from India. A map* accompanies showing the several tracks and roads referred to in the Reports.

2. It will be seen that in the districts lying within the superintending engineer, south-eastern circle, cotton is not grown in any quantity worth notice. No suggestions are offered, and no measures are required.

3. Of the roads recommended, the principal ones are in the Northern Behar and Cuttack circles, within the jurisdictions of the Commissioners of Bhaugulpore, Chota Nagpore and Cuttack. In the first of these divisions, three roads leading into the Sonthal hill country are mentioned and marked on the map; viz.

From Pulsa to Nonihaut.
 „ Buhawa to Burhait.
 „ Taljeera to Burhait.

Survey Reports have already been called for of the country between Pulsa and Mahooagarhee and between Buhawa and Burhait. In the same division the completion of the road from Soory to Bhaugulpore is recommended. The Officiating Commissioner of Bhaugulpore states, however, that there is no cotton produced in his division for export.

Superintending Engineer, South Eastern Circle's Letter, No. 2043, dated 23d March 1861.
 Superintending Engineer, Behar Circle's, No. 3757, dated 1st April 1861.
 Ditto ditto No. 3965, dated 19th April 1861.
 Ditto ditto No. 159, dated 14th May „
 Ditto Northern Circle's No. 702, dated 30th April „
 Ditto Presidency Circle's No. 322, dated 18th May „
 Ditto Cuttack Circle's No. 38, dated 20th May „
 * Printed.

Paragraphs 4 to 10 of Captain Layard's No. 702, dated 30th April 1861.

I.
India.

Enclosure to Major
Maxwell's No. 3965
of 19th April 1861.

4. The Report of the Commissioner of Chota Nagpore, Captain Dalton, will be found very interesting. He recommends the improvement and completion of the roads from—

1. Chuttra to Chumparun, 30 miles.
2. Raneegunge *viâ* Pooroolia to Chyebassa, 123 miles.

Rs. 1,000.

Rs. 24,600.

The proposal regarding the first of these seems worthy of attention. Of the other route the portion between Raneegunge and Pooroolia is annually repaired at a cost of 1,000 rupees from local funds as part of the road to Rauchee. The Commissioner states that for 200 rupees per mile it could be converted into a good cart road, but at that rate the entire cost would amount to 24,600 rupees. The district appears, however, a very promising one, and if the Commissioner brought the road under notice forward in his annual estimates for works chargeable to local funds, half the length, or as far as Pooroolia, might be completed perhaps by a grant from the general assets of the Amalgamated District Road Fund.

Enclosure to Major
Maxwell's No. 159
of 14th May 1861.

5. The Commissioner of Patna states that in his division cotton is grown for local consumption, and that no considerable increase of produce can be expected until means of irrigation on a good system shall have been provided. He points attention to two roads, regarding which he has called for information from the magistrate of Shahabad; viz.—

From Hatta to Chuckea.
„ Sasseeram to Bidjeighur.

The second route is recommended by Mr. Bingham. From the proposed terminus (Bidjeighur) there is a road to the great Deccan road from Mirzapore through hilly country. It was traversed by Colonel Turner with a detachment of Europeans from Dehree, marching *viâ* Patna in pursuit of rebels in 1857. The line of the proposed road would pass, it is believed, through a difficult, sparsely inhabited, and unhealthy district, and the object in view is scarce likely to be attained if it be to intercept cotton in transit to Mirzapore for water carriage to Calcutta, and to induce it to take to the Grand Trunk Road.

Paragraphs 11 to
13 of Capt. Layard's
No. 702, dated 30th
April 1861.

6. The Superintendent of Darjeeling represents that the Terai appears to be "peculiarly fitted for cotton cultivation," and he recommends (the superintending engineer entirely concurring) the construction of roads with timber bridges for crossing the streams.

1. From Nakeswarbary, on the Mechi River, to the Darjeeling Road, near Beserbatti.
2. From Mattigurha to Gorawara, on the Teesta River.
3. From Gariwhoora, in the Darjeeling Road, to Titaliah, *viâ* Ramdangah and Phansee-deewa.

The exact positions of the places named are not known, and it is difficult to determine the direction of the proposed roads without a further detailed report from the local officers, for which application may be made to the superintendent.

Paragraph 3 of Mr.
Armstrong's No. 38
of 28th May.

7. From the three reports concerning the Cuttack Division, it will be seen that in the Delta but little cotton is grown for want of means of irrigation, and that the new road from Cuttack to Taldondah and False Point Harbour is stated to be very beneficial.

Paragraphs 4 to 9 of
Mr. Armstrong's
No. 38 of 20th May.
Paragraphs 1 to 5 of
enclosure to above.
Mr. Bond's Report.

A road from Cuttack to Sonapore was before proposed by Mr. Cockburn, late Commissioner of the Division, who pressed hard for a grant of at least 4,000 rupees for that part of it which crosses the rocky Burmool Pass, and the Secretary of State remarked, in a late communication, that the road evidently was a desideratum, which should be provided for when funds were available. This project is again very strongly recommended, and Mr. Bond, Executive Engineer, Cuttack Division, describes, in his letter under submission, the probable increase to traffic in cotton in case of communication with the interior being opened out, and mentions that even now it is conveyed to Cuttack by pack bullocks. The cost of completing the road as far as Sonapore was estimated at 23,435 rupees, but no funds were available at the time. Perhaps the Lieutenant Governor may feel disposed to pass this year a grant from the reserve fund for the road in question, which appears much required.

Rs. 23,435.

8. The extension of the above road to a convenient junction with the Raepore Road, or the main line between Calcutta and Nagpore, is also recommended, and a further report on this point may be called for.

Paragraphs 18 to 21
of Mr. Armstrong's
No. 38, enclosure to
above. Mr. Brown's
Report.
Rs. 10,000.

9. A road from Sumbulpore to Chunderpore, a length of 54 miles, is also suggested, which would cost about 10,000 rupees. In accordance with the suggestion of the superintending engineer, the executive engineer, Raepore Road Division, may be directed to examine the country and report further on the subject; but the chief engineer considers that no great object would be gained by the construction of the road in question, or of the long and expensive one between Ranchee and Sumbulpore (in comparison with the probable advantage of other practicable lines) which was recommended by the late commissioner, and is now again advocated.

Col. Ommanney's
No. 322, dated 18th
May 1861.

10. The superintending engineer, Presidency Circle, has no suggestion to offer respecting the construction of new roads; but he brings forward a proposal of Major Sankey, late officiating

officiating garrison engineer, to construct cheap metalled roads by metalling only two tracks for wheels of vehicles. It is understood that roads have been made on the plan mentioned in the Madras Presidency, and the chief engineer would suggest a trial being made in some place where metal is plentiful, as in the Damun-i-koh. The metal will require to be carefully consolidated and rolled smooth, however, to admit of cart wheels moving on the tracks. The bullocks also will tread on the metalled parts, not the soft earthen centre, as stated by Major Sankey, as in the common country cart the wheel follows in the track of the bullock. Colonel Ommanney points out, also, that in a previous letter, after inspection of the Kishnaghur and Barrackpore Road, he recommended its being metalled in case of the traffic on it increasing.

11. No reports have as yet been received from the Burdwan and Assam Circles. The districts in the former are well provided with local roads, and the Imperial roads now in progress, or projected, seem sufficient to meet all requirements. The great want of Assam is the completion, as a bridged communication, of the great Imperial road from Goalpara to Dibrughur. The reports from both Circles will, however, be submitted on receipt, should they contain any proposals.

From *H. Leonard*, Esq., Superintending Engineer, South-Eastern Circle, to the Chief Engineer, Lower Provinces (No. 2043, dated 23 March 1861).

WITH reference to the Secretary to the Government of Bengal's No. 987 of 11th instant, relative to accommodation for the transport of cotton from the interior to the seaboard, I beg to state that cotton is not grown in any quantity worth attention in this circle.

From Major *W. Maxwell*, Superintending Engineer, Behar Circle, to the Commissioners of Patna and Chota Nagpore (Nos. 3584-5, dated 20 March 1861).

I HAVE the honour to inform you that a copy of the Under Secretary to Government of Bengal's No. 256 A. of 6th instant, addressed to the Secretary to the Board of Revenue, Lower Provinces, has been sent to me by the Secretary to Government of Bengal, Department Public Works, with a request I would submit an early report on the subject of internal communication with the cotton growing districts; to enable me to do so I have the honour to request the favour of your informing me in what Pergunnahs and Zillahs cotton is, or likely to be grown within your division to such an extent as to warrant the construction of new lines of road or the improvement of existing lines.

2. Any suggestion from you on this important subject will be thankfully received. I know so little of the resources of this part of the country that I am quite at a loss to know what parts of it are capable of growing cotton of sufficiently good quality to suit the English market.

Memorandum from Major *William Maxwell*, Superintending Engineer, Behar Circle (No. 3965, dated 19 April 1861).

FORWARDED for the orders of the chief engineer, Lower Provinces, in continuation of superintending engineer, No. 3757, of 1st instant.

2. The Commissioner refers to the following roads as being desirable in his district with reference to the cotton inquiry:

1st. From Chattra to Grand Trunk Road, near Chowparun, a distance of about 30 miles.

2d. From Raneegunge to Chyebassa, a distance of 123 miles.

3. Both of these lines of communication might be opened out and improved as fair-weather roads for about 200 rupees per mile, by the local district officers, but if anything beyond the actual removal of obstacles to a cart passing is desired it will be necessary to double that rate. The Hazareebaugh and Bagoodur Road was estimated to cost 380 rupees per mile; the one between Ranchee and Govindpore is estimated at 510 rupees per mile.

4. This country certainly requires opening out; it is full of wealth, and must sooner or later become one of the most valuable provinces in India.

I.
India.

From Captain *E. T. Dalton*, Commissioner of Chota Nagpore, to *H. L. Dampier*, Esq., Secretary to the Board of Revenue, Lower Provinces (No. 393, dated 9 April 1861).

WITH reference to your Circular Memorandum, No. 13 B. of the 12th ultimo, I have the honour to state that the coarse description of cotton called Rowtea is grown in all the hilly parts of this division, but in small quantities for local consumption, and, as it does not appear to me to be of a quality suited for the home market, no advantage would be gained by inducing the hill people to extend its cultivation.

2. Attempts have been repeatedly made to induce the hill people to grow a better description of cotton, but without success. The soil does not appear to be suited to the finer kinds.

3. The above remarks apply to cotton grown in Jushpore, Sirgoojah, Korea, and on the hills of Chota Nagpore and Ramghur.

4. In Palamow, and the Pergunnah called Toree, which adjoins it, a better description of cotton is grown, some of which is exported. The soil of these pergunnahs is rich and well adapted for cotton, and the quality grown could, with attention, be improved, and if there were a good market for it, and the expense of carriage were diminished, the quantity produced would, I doubt not, be considerably increased.

5. So much of it as finds its way out of the country is conveyed on pack bullocks to Chattra in the Hazareebaugh District and thence on carts to Chowparun on the Grand Trunk Road.

6. Chattra is the largest mart for produce in the division, the roads leading to it from Palamow, from Toree, and from Ranchee, are all mountainous and bad, and could not be made passable for carts without going to great expense.

7. But a great impetus to the trade in this cotton and other produce would be given if the track between Chattra and Cowparun were converted into a good road for traffic by carts, &c., and this could be done cheaply and with ease, as it is through an open level country the whole way.

8. Cotton grows very well in Singbhoom, and it is reported by Captain Birch, the senior Assistant Commissioner in charge, that the people are ready to cultivate it more extensively if assured of a steady market. I think this district is, on the whole, the most promising field for cotton experiments in this division. Foreign kinds have been tried there, and have succeeded, as is shown by the marginal extract from a report by Mr. James Cowell,* on a specimen sent for inspection to the Horticultural Society.

9. This foreign variety is still grown in some parts of Singbhoom, and it is estimated that it yields about 116 lbs. per beegah, but it is seldom seen in the markets, and I am unable to give any information regarding the price at which it is sold.

10. The price of country cleaned cotton is about two and a quarter seer for the rupee, but as it is generally bartered for salt in quantities judged by the eye, the rate at which the Coles sell it is not readily calculated.

11. Captain Birch observes, in regard to his district, that the part of it where cotton cultivation may at once be commanded is within 12 days' journey of Raneegunge, *via* Pooruleah, and during the season when cotton is ready for export, country carts can travel along the whole route.

12. The road from Raneegunge to Pooruleah, a distance of 62 miles, is annually repaired at an expense of about 1,000 rupees, as a part of the fair-weather road between Raneegunge and Ranchee.

13. Nothing has been done at the expense of Government to the track between Pooruleah and Chyebassa, a distance of 61 miles; it is just kept open in the dry weather by the owners

* The A Kupas is an excellent and useful description, the fibre strong and soft, and of some length. From its being so readily and easily divested of its seed (black), and from its general appearance, I consider this specimen to have descended from Bourbon stock, but to have degenerated in some degree. It will be well to learn from Captain Haughton whether much of this cotton is grown in the district under his charge, under what kind of cultivation and the price per maund at which it sells or can be produced. It is a description of cotton well suited for the home markets, and if properly cleaned and at a moderate cost would readily, I think, meet buyers in the Calcutta Bazar.

Extract from a report by Mr. Willis. Has cast his eye over these musters and papers, and I can report for him briefly that in regard to the sample from Chota Nagpore district, he concurs generally in the favourable opinion given of it by Mr. James Cowell. I have examined many of the seed, and opened out their fibres, which seem to me fair stapled, fine and tolerably strong, and so readily parting from the smooth black seed that they could not suffer from the gin or churka; seeds small, and on the whole rather thinly clad with wool. If cotton like this can be produced for three years or more in succession on the same ground, say on rugged trap hills on which other cultivation is impossible, it appears to be well worthy of cultivation in such places. It suggests the idea that other lands of a still more favourable nature in the same country may be found and also tried with cotton advantageously, for they may yield more abundantly a crop of superior cotton which will amply repay the higher rent of such lands.

owners of the estates through which it passes, but the whole line between Raneegunge and Chyebassa is an easy one for road-making, and for 200 rupees a mile could be converted into a good cart road.

14. The quantity of cotton now annually produced in Singbhoom is not in itself sufficient to warrant a heavy expenditure for improving the means of its exportation, but there is certainly reason to hope that increased demand and facility of transport combined would have an immediate effect on the production, and if it had not that immediate effect the road would not be thrown away.

15. It would be available for the exportation of the whole produce of Singbhoom, including raw tussar, to the value of a lac of rupees.

16. It would pass near the copper mines of Seraikhella and through Chandel in the Maunbhoom District where good roofing slate has recently been discovered by Doctor McClelland. It would be of great service to persons engaged in the timber trade. Moreover, in Singbhoom are vast tracts of unreclaimed land, hill and plain, well adapted for most kinds of cultivation, the property of Government, so that grants could be made to capitalists wishing to cultivate cotton, on favourable terms.

17. I must not omit to mention that Mr. Blechynden, superintendent of supplies at Chowparun, succeeded this year in raising a very good crop of cotton from foreign seed supplied to him by the Horticultural Society. He gave me a specimen of the cotton, which is excellent.

18. Considering the locality on the Grand Trunk Road, the success is important, and I hope the experiment will be repeated with acclimatised seed on a more extended scale.

From *H. D. H. Fergusson, Esq.*, Commissioner of the Patna Division, to the Magistrate, Shahabad (No. 45, dated 9 May 1861).

I SHALL be obliged by your reporting further on the subject alluded to in the 7th paragraph of your letter, No. 37, dated 26th ultimo, sending a rough sketch of the proposed road, showing any important places on the line, and specially the situation of Hatta and Chukeah.

2. Mr. Bingham has also suggested the construction of "a road from Sasseram across the hills to Bidjeyghur, whence there is a road joining the Great Deccan Road."

3. Regarding this line also, I shall be obliged by your supplying all the information in your power.

From *H. D. H. Fergusson, Esq.*, Commissioner of the Patna Division, to the Superintending Engineer, Behar Circle (No. 96, dated 9 May 1861).

IN continuation of my letter, No. 24,* dated 23d March last, I have the honour to inform you that the only suggested improvements of the internal communication with the cotton growing districts in the division are alluded to in the enclosed copy of my letter, No. 45, of this date, to the magistrate of Shahabad.

* Forwarded, in original, to Chief Engineer, with my No. 3757 of 1st April 1861.

2. Cotton is grown in almost every district and pergunnah in this division, but only for local consumption, and not for export. It is possible that a small quantity is exported from Shahabad, but there can be no very considerable increase till we have a good system of irrigation.

From Captain *F. P. Layard*, Superintending Engineer, Northern Circle, to Lieutenant Colonel *C. B. Young*, Chief Engineer, Lower Provinces (No. 702, dated 30 April 1861).

MEMORANDUM No. 987 from the Secretary to Government of Bengal, Public Works Department, forwarded communication from the Government of Bengal, with annexure from the Governor General in Council, regarding the improvement of internal communication for the purposes of cotton traffic, and called on me for an early report.

2. I need not point out how very little information I can afford on this subject without personally traversing the extensive country comprised within my Circle, and communicating with residents and others on the capabilities of their land to produce cotton, or of even finding out where cotton may actually be produced.

I.
India.

3. I have applied to the superintendent of Darjeeling and the commissioner of Bhaugulpore for their advice, as their revenue duties no doubt afford them opportunities of knowing where cotton is, or may be grown; and during my late inspection tours in both those districts, I have seen cotton cultivated, and occasionally conversed with gentlemen and natives on the subject.

4. The reply of the officiating commissioner of Bhaugulpore is not very encouraging. He says, "I do not think there is anything which could be done in the way of making and improving roads to facilitate the bringing the produce to port, for the very simple and sufficient reason that there is now no cotton to export."

5. The officiating commissioner's reply is very logical and conclusive as far as immediate requirements are concerned, but I do not see why it should prevent communication being improved where cotton might be grown, and where it no doubt would be grown if its carriage to a port would pay. I have myself seen cotton, though of an inferior quality, from very defective cultivation, growing in many places in the Sonthal Pergunnahs, and I very much question if all the native cloth one sees under the loom throughout the country between the railway and the Soory and Bhaugulpore road, is not produced from cotton grown in the vicinity.

6. In a private communication from Mr. Charles Barnes, a gentleman who holds nearly the entire country between the Soory road and the Damin-i-koh hills, he says—"Give us cross roads from the big Bhaugulpore and Soory road intersecting the Damin, but by all means let us get that chief one *viâ* Noni, finished: it is a sin letting it go to ruin just for the want of a few rupees."

7. This state of the road *viâ* Noni, I brought to your notice in my Report, No. 502, dated 24th January 1861, and the Lieutenant Governor was good enough to approve of my suggestions for its repair, and the executive engineer was directed to put them in hand at once.

8. The principal intersecting lines I would recommend, are—

First. From Mooradoi or Pulsa railway station along the right bank of the Bansloi Nulla through the Punchwara Pass, *viâ* Kendwa and Danra, to Sarnie, and with branches from thence to Noni and Hansdiha, both on the Bhaugulpore and Bowsee road. A branch should also be opened from the Pakour railway station to Khooskkhira, near the falls at Amrapara on the Bansloi, joining the Pulsa and Punchwara line.

9. These lines and loops would open out a fine tract of country for cotton cultivation, and be of great use to the proprietors of the coal mines along its route. It is equally well worth considering whether a canal might not pay well hereafter along the course of the Bansloi.

Secondly. The next important line would be from Bahawa railway station through Burhait and Godha to Bowsee; part of this line between Bahawa and Burhait has been surveyed by the executive engineer, Bhaugulpore division, and an estimate for the construction of a road will soon be submitted.

Thirdly. Another useful line is that from the railway at Hurukhole near Taljeera station, across the Rajmehal hills, and through the valleys to Burhait.

10. The construction of the above lines into serviceable fair-weather cart roads, would be an immense boon to the Sonthal Pergunnahs, in which I am confident cotton could be successfully cultivated.

11. The superintendent of Darjeeling has been good enough at once to reply to my request for his advice, and I quite concur in what he says as to the great use the construction of timber bridges would be in crossing the numerous streams in the Darjeeling Terai, a tract of country which appears to me peculiarly fitted for cotton cultivation.

12. Dr. Campbell recommends that by cutting jungle, levelling the ground, and constructing timber bridges of a temporary nature, useful roads might be opened as follows:—

1st. From Nakeswurbary on the Mechi river to the Darjeeling road near Beserbatti.

2d. From Mattigurha to Gorawara and the Teesta river.

3d. From Garidhoora in the Darjeeling road to Titalya, *viâ* Ramdanga and Phansedeewa.

13. It must be remembered that I offer the above recommendations more in the light of suggestions, as, with the exception of the country between Pulsa and Noni, and a few miles beyond Hurukhole in the Rajmehal hills, I have not personally visited the exact lines I have proposed to open, but I am well acquainted with the country through which they run, and I am sure no very large cost would be incurred in opening all these roads commensurate with the benefit they would secure.

From Colonel *E. L. Ommanney*, Superintending Engineer, Presidency Circle, to the Chief Engineer, Lower Provinces (No. 322, dated 18 May 1861).

IN compliance with the orders received with Bengal Government's docket, No. 987 of the 11th March last, and accompaniments as per margin, I have the honour to report that I called upon the several officers for information on the subject of improving the internal road communications, and for any suggestions they might have to offer to meet the object in view, and I now beg to forward a summary of the replies received from them.

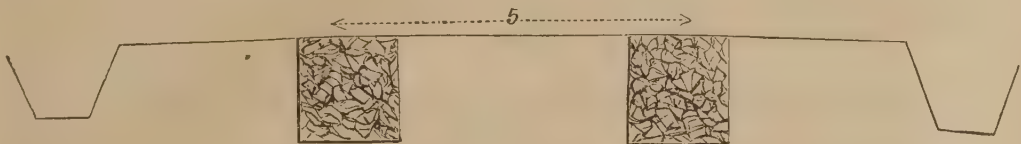
Resolution by his Excellency the Governor General in Council in the Home Department, dated 28th February 1861.

Under Secretary to Government of Bengal's No. 256 (A.), dated 6th March 1861, to Secretary to Board of Revenue, Lower Provinces.

Under Secretary to Government of Bengal's No. 257 (A.), dated 6th March 1861.

2. The civil architect states that there are no roads under his charge which would promote the object in view by being improved in any way, nor can he offer any suggestion which would be of use in the present emergency, as far as his division is concerned. Presidency Division.

3. Major Sankey observes that he has had but little acquaintance with Lower Bengal, and would not venture to offer an opinion as to what roads may be required. But having seen a good deal of the cotton lands of Central India, he mentions that cheap roads can be made through light friable soil capable, of bearing considerable traffic, by the following arrangements, which he thus explains:— Garrison Engineer.



"Two trenches, about 18 inches wide and the same in depth, are dug down the middle of the road at about five feet from centre to centre, and filled with stone and consolidated, as well as circumstances admit. Carts can travel on this road, as well as a metalled one, better, indeed, under favourable circumstances, as the central earthen track is softer for the bullocks' feet than a regularly metalled road."

"The trenches also serve to drain and keep dry the central portion in wet weather." He further adds, the cheapness of the arrangement is manifest, and that if combined with the Punjab system of laying straw to a certain depth on the surface, probably most excellent roads might thus be obtained at a comparatively small cost.

4. All the roads in the suburbs of Calcutta in this circle over which carriage with cotton is likely to pass are in good order; Mr. Bremner, the officiating superintendent, can therefore suggest no improvements. Suburban Roads.

5. The executive engineer of the Barrackpore division intimates that he has had no time to make inquiries in the district through which the only fair-weather road in his division runs, viz., from Barraset to Kishnaghur; nor has he had time to visit it, or the means of judging, by careful and practical information gathered on the spot, to what extent it would be advisable or practicable to improve the village roads which meet this line. In order to meet any increased traffic on the road from Barraset to Kishnaghur, and from the former to Barrackpore, it is suggested in this Office Docket, No. 5360, of the 5th ultimo, to improve these lines of communication by metalling the centre, as from the nature of the soil these roads are very quickly cut up into ruts, in the dry months of the year, with the present traffic. Barrackpore Division.

6. In the Arracan province the cotton cultivation is stated by Captain Twynam to be very trifling, and barely sufficient to meet local requirements, nor is the cotton of superior quality, and scarcity of labour would, it is said, be a bar to its cultivation to any great extent; should, however, the cultivation increase, the material would be conveyed to the port of shipment by water, as the country is much intersected by tidal creeks, and roads are not therefore required. Arracan Division.

I.
India.

From *T. N. Armstrong, Esq., C.E.,* Officiating Superintending Engineer, Seventh or Cuttack Circle, to Lieutenant Colonel *C. B. Young, Chief Engineer and Secretary to the Government of Bengal, Department Public Works, (No. 38, dated 20 May 1861).*

I HAVE the honour to acknowledge your Memorandum, No. 267, of the 11th *above*, forwarding correspondence as per margin on the subject of cotton supply for England, and facilitating the transit of the same from the interior of India to the seaboard, by the formation of district roads and the like.

Bengal Government's Letter No. 256 (A.), dated 6th March 1861, and its annexed resolution by the Governor General of India in Council, dated 28th February 1861, to the Secretary to the Board of Revenue, Lower Provinces.

Bengal Government's Memorandum No. 257 (A.), dated 6th March 1861, forwarding copies of the above to the Public Works Department.

2. In reply, I beg to forward copies of letters on the above matter from each of the executive engineers of the five divisions which compose the Cuttack Circle.*

3. Mr. Anley, the executive engineer of the Pooree division, reports that cotton is grown, but in very small quantities, in that part of Orissa which comprises his division. This small quantity is produced chiefly at a place called Piplee, half-way between Cuttack and Pooree. The main Jagguramiah-road intersects the Piplee district; hence there is no want of communication, and which will be improved indeed, after a time, when the road is metalled and remodelled, as is contemplated.

Mr. Anley also gives it as his opinion that the small supply of cotton produced in the Pooree district would not warrant any expenditure on new roads for its special transit, &c. My belief is, that the growth of cotton is very much restricted in the Pooree district, because there is no water available for its irrigation.

4. Mr. Bond, who is in executive charge of the Cuttack division, reports in some detail on the subject of cotton, and of improving the routes from the cotton districts about Sonapore, Sumbulpore, and west of the same to Cuttack and the ports of Orissa, and he gives some very interesting and useful information.

5. The executive engineer commences by advocating reconsideration to a project for a fair-weather road from Cuttack *via* Bankee, Bydessur, the Puddumtolah Pass, or Burmoel defile, and Sonapore towards Raipore and Nagpore.

6. This project was brought to the notice of the late Lieutenant Governor of Bengal in 1858-59, by Mr. Cockburn, a Commissioner of the Cuttack districts. An estimate and report was called for and submitted.

The amount of the estimate was 23,435 rupees, but the matter dropped, owing to the orders which were subsequently issued restricting the expenditure on public works.

7. Mr. Bond recommends the opening of this fair-weather road with a view more especially of connecting Nagpore and Raipore with the seaboard, and he further expresses his belief that if a road was opened through the Puddumtolah ghat, the cotton traffic which now "may be enumerated by hundreds of bullock loads," would be changed into "hundreds of cart loads."

This is a very important piece of information in my mind, because Mr. Bond, I am aware, submits the same on good data and knowledge of the country.

8. Again, the executive engineer reports that a track 40 feet wide has been opened for a portion of the line he recommends, and that since, along this track, cotton, wheat, and iron are already brought towards Cuttack, and in "large quantities."

9. The estimate as noted above, viz., 23,435 rupees is, however, for only a portion of this new line of road, or from Cuttack to Sonapore. Mr. Bond recommends its extension to the Raipore and Sumbulpore-road (*vide* sketch accompanying),† and thus to complete a communication between the chief towns of Nagpore and Cuttack, which may be called the seaboard.

10. A road already exists between Chota Nagpore and Orissa, or *via* Sumbulpore and Ungool to Cuttack; but the part that lies between Ungool and Sumbulpore, a distance of about 75 miles, passes through a very hilly jungle country.

11. The Secretary of State for India in his despatch of the 29th September 1859, writes regarding the road from Cuttack, *via* the Burmoel defile, to Sonapore, &c., as follows:—

"One portion of the road which would traverse the now almost impracticable Burmoel defile, is evidently a desideratum which should be supplied whenever money can be spared for it."

12. The greater part of the rest of the track between Cuttack and Sonapore is practicable more or less for carts, but they must be very lightly laden.

It will be seen by referring to Mr. Bond's sketch map, that the Burmoel defile is about half-way between Cuttack and Sonapore, and it is at present a complete barrier to wheeled traffic.

13. Mr. Bond urgently recommends that a sum of (4,000) rupees, four thousand be granted for the purpose of clearing and forming a track across the ghat, and that such work be

* I find it only useful to forward two Reports, viz. :—One from Mr. Bond and one from Mr. Brown.

be carried out next working season. This sum the executive engineer estimates will form eight miles of road.

14. The improvement of the rest of the road, he thinks, may be deferred for a season.

15. At the top of this ghat, or defile, is a jheel, which the executive engineer recommends to be improved, and a portion of it formed into a tank, because there is a "recognised halting place" for all travellers at the top of the ascent, and it appears that the Rajah of Rewah when travelling through the defile in 1857 on a pilgrimage to the temple of Juggurnath, at Pooree, experienced such difficulties, that he offered a sum of 6,000 rupees for the purpose of forming a road over the ghat, and building a "serai" for travellers at the top of the ascent, and near the jheel Mr. Bond proposes to improve.

16. With regard to the northern part of Orissa, or the district of Balasore, the officiating executive engineer reports that the several recent attempts which have been made to grow cotton in this district have all been failures, and hence he thinks that the subject of roads for its transit need not be considered.

17. I agree with Mr. Patterson, more especially as, unlike the Cuttack district, there is little or no traffic that I am aware of from Balasore to the interior, and, besides, the interior has other and more convenient outlets for its produce than a connexion with Balasore could afford. The cultivated interior and Balasore are separated by a thick belt of very hilly jungle country.

18. Another report I have to notice is forwarded by Mr. Brown, who is in executive charge of the Raipore road and Sumbulpore station, &c. This officer states that the Sumbulpore district is "proverbially" a cotton growing one, and that the difficulties of internal communication, from want of district roads and the dangerous nature of the Mahanuddy's navigation, are the great hindrances to the improvement of the country, being bars to any but very restricted traffic.

19. This officer advocates in his paragraph 3, the formation of a fair-weather road from Sumbulpore to Chundeipore,* and he forwards a sketch exhibiting the route for the same. * *Vide Sketch No. 2.* This road would be about 54 miles in length, without bridges over the nullahs, and for merely levelling and marking out a track, 150 rupees per mile ought to go a good way on such a work. This rate gives 8,100 rupees as the probable expense, or say 10,000 rupees, as very likely some of the track passes over rough or rocky ground, and boulders and the like would have to be removed, and perhaps blasted; the line runs parallel to the Mahanuddy, but the navigation of the river is marked on the plan as "very dangerous," owing, I believe, to the quantities of sunken rocks and such like snags that exist in the river's bed.

20. In his paragraph 4, Mr. Brown recommends the repair of the road between Sumbulpore and Ranchee.† The distance I find is about 160 miles, but as no data is given, I am † *Vide Sketch No. 3.* unable to say what the cost of repairing this road might come to. Its improvement was advocated by the late commissioner of Cuttack, Mr. Cockburn, and that officer recommended that the line should be made an imperial road.

21. It appears that no use is made of the ferry funds of the Sumbulpore district; no meetings are held by the committee entrusted with these monies, and what sums have accumulated are lying idle in the station treasury. The executive engineer expresses a hope that they may be made available for the construction of the fair-weather roads he recommends, and I think the matter might with advantage be inquired into.

22. Mr. Brown proposes other improvements, *vide* his paragraph 5, but I doubt if such works, *viz.*, the improvement of existing roads, should come under notice in this report. Part of the road from Sumbulpore to Calcutta is "impassable" for "wheeled traffic," and the executive engineer wishes to improve the gradients, &c., at certain spots and passes; such no doubt would facilitate cotton traffic, and all traffic which, for a great part of this line, travels now only on pack bullocks, &c.

23. The last report to be considered is the one submitted by Mr. J. MacMillan, who is officiating executive engineer of the Mahanuddy division.

24. This officer states that there is cotton grown to a "small extent" along the banks of most of the rivers in his division, but he doubts if the "apathetic oriyah" can be roused to increase its cultivation without some "great stimulus." I do not agree in this remark. The true reason that cotton is not more largely grown along the rivers of the Cuttack district is the want of water for irrigating the soil.

25. Cotton is at present, and can be at present, only grown on the banks of the rivers, because water is there at hand to irrigate their fertile banks.

26. The rude system of irrigation pursued by the oriyahs is by far too expensive to work, except on the smallest scale. Hence the people only grow cotton sufficient for local consumption.

27. The soil inland from the rivers which is suited for the crop will not grow cotton without irrigation, and at the proper season for its growth there is no water available for such purposes. Hence it may be stated that as the soil without water at the proper season

I.
India.

is unfit for cotton cultivation around Cuttack, the project of district roads to facilitate its transit, &c., cannot be entertained, as even if they were constructed, they would be useless to forward cotton cultivation or cotton transit, because, from the reasons I state, this most useful article cannot be grown to any extent.

28. The same remarks apply more or less to the Balasore district, and I am quite certain that it was more want of water that caused the failure, Mr. Patterson reports, when the growing of cotton was attempted, than from any inaptitude of the soil to produce the commodity.

29. No doubt there are extensive tracts of land in the Pooree, Cuttack, and Balasore districts, the soil of which is unsuited for cotton; but again I know of localities where cotton is grown wherever water is available. For instance, near Aul, Pattamondae, Hunsooh, and Kendraparrah, &c., in the Cuttack district. These lands are more or less intersected with nullahs that hold in the dry season large pools of water, and many of them are completely emptied for irrigating the cotton lands adjacent. The crop, however, from the causes I state in paragraph 26 only fringes these watercourses.

30. In the months of March and April I have often seen the ryots at the time of high spring tides obliged to irrigate the cotton lands along the nullahs with salt water, and water that was very nearly so, and yet they had fine crops. If fresh water was available, the plant would have been naturally more flourishing and remunerative.

31. I beg urgently to recommend for favourable consideration the improvement of the road from Cuttack *via* the Burmool Pass to Sonepore.

32. For the opening of a cart track through the "Burmool defile" the executive engineer reports that only 4,000 rupees is required, and his opinion is that the result of this work would be "hundreds of cart loads of cotton," instead of, as at present, "hundreds of bullock loads."

The line proposed from Sonepore to join the Nagpore road, might also be examined, and an estimate submitted for a fair-weather road.

These projects were advocated strongly by the late Commissioner of Cuttack, Mr. Cockburn, and that officer had a perfect knowledge of the districts in his charge, and was well aware what advantages would accrue from improving existing roads and opening up new lines of communications.

33. With reference to a road from Sumbulpore to Chunderpore, the officiating executive engineer of Sumbulpore might be ordered to examine the country next cold weather between these two places, and after doing so to submit a report and estimate for opening up a fair-weather line of road.

34. Mr. Cockburn's proposition for making the existing track between Ranchee and Sumbulpore an imperial line ought again to be considered, I think; and if the idea is approved of, orders might be issued to examine and report on the present route, and to estimate the cost of complying with the Commissioner's recommendations.

35. The navigation of the Mahanuddy in its reaches above Sumbulpore and down to Sonepore, &c., is always more or less dangerous.

36. This part of the river was examined by Mr. MacMillan, the officiating executive engineer of the Mahanuddy division, and he explains in his report all the difficulties attending the navigation and the "shooting" of the rapids over the rocky shoals.

37. My opinion is that the removal of the shoals, or even the clearing of a navigable passage through them, which I am aware was contemplated, will be found to be a very expensive work. There is no immediate chance of its being undertaken, and it very likely may never be carried out. Hence the necessity for considering now the land routes from the seaboard and Cuttack to the interior.

38. A good fair-weather road has been lately made from Cuttack to Taldondah on the Mahanuddy, from which place this river is navigable to False Point harbour at all seasons of the year, and it will be a great benefit if this improving port and the interior are brought into connection with each other.

39. During the flood season the Mahanuddy is navigable for carefully piloted boats, but at the end of the monsoon and during the dry season the navigation becomes "very dangerous," and it is just when this occurs that fair-weather roads can be readily travelled upon.

Their extension* and improvement is, therefore, in my opinion, a subject well worthy of favourable consideration, more especially as their construction will be attended with very moderate expenditure, and most beneficial results to the country they open up, for they are the germs of a traffic that must increase, and of a trade which will commence, when outlets are afforded for the conveyance of the produce of the soil.

* Up to 1858 there was not a single district road in the Cuttack or Pooree Zillahs; since then a few miles have been made, and with very great benefit indeed.

COPY of REPORT by Mr. F. Bond on the advisability of Improving existing Communications or opening new ones in the Cuttack Division, with reference to the encouragement of the Indian Cotton Trade, submitted in accordance with Officiating Superintending Engineer's Circular Memorandum No. 151 of the 18th March 1861, and its Enclosures.

I.
India.

Dated Cuttack, 15 April 1861.

THE only line of communication to which the subject of this report seems to point, and to which I beg to draw attention, is that running along the right bank of the river Mahanuddy from Cuttack, viz., Bankee, Bydessur, the Puddumtolah Pass, Boad, and Sonopore, towards Raipore or Sumbulpore.

2. This is no new project, but one to which was drawn in 1858 and 1859 the attention of the Lieutenant Governor by the Commissioner and Superintendent of the Cuttack Division. An estimate* having been called for, I submitted one in July 1859; but, in the meantime, a restriction having been placed on public works, the project was dropped.

* For a fair-weather road from Bydessur to Sonopore	Rs.
Add for portion from Burmool along the river bank to Harbhungah (21 miles) not included in above sum	14,666
	8,769
For 113 Miles	Rs. 23,435

3. In recommending the opening of this road, I have more in view the advisability of opening a communication between the districts west of Sonopore (i.e., Raipore and Nagpore) and the seaboard, for I believe other staples of commodity besides cotton, such as wheat and iron, will be drawn from the interior to the export harbours in much larger quantities than the present state of the roads will allow; for, while now the cotton traffic may be enumerated by hundred of bullocks' loads, if the Puddumtolah Ghat were opened out, it would be by cart loads.

4. A tract 40 feet wide has been opened at the expense of the Ferry Funds from Cuttack to Bydessur, and the native subordinate in charge tells me that while cocoa nuts and salt form the chief portion of the traffic towards the interior, that cotton, wheat, and iron are brought down from the districts lying in the far west. The Rev. Mr. Miller, a missionary, who has travelled on this road as far as Sonopore, states, that he saw large quantities of cotton on its way down towards Cuttack.

5. The estimate submitted by me provided for a road only up to Sonopore; but it would be defeating the object in view to limit the road to this place, while the great point is to put Nagpore in communication with the seaboard. I would, therefore, recommend the extension of the proposed line to meet the Sumbulpore and Raipore road, and thus to complete the communication between the chief town of Nagpore and the sea coast on the east.

6. I have said nothing about the opening a communication between Chota Nagpore and Orissa, not only because there is a road open from that province, viz., from Sumbulpore, viz., Ungool to Cuttack, but also because it seems more convenient, and therefore desirable, to draw the traffic of that province towards the Grand Trunk Road.

7. The Secretary of State for India, in his Despatch No. 1, dated 29th September 1859, thus expressed himself with reference to the line in question,—

"One portion of the road, that which would traverse the now almost impracticable Burmool defile, is evidently a desideratum which should be supplied whenever money can be spared for it. The rest of the line is described as already practicable for carts in fine weather, and the degree of urgency there may be for further improving it, is a question to be determined when the estimate called for is submitted."

Paras. 49 and 52.
Proposed construction of a road from Cuttack to Sonopore.

8. Referring to the above-mentioned Burmool defile, I must observe that the estimate submitted by me provided for a road along the river bank, diverging at Harbhungah, in supercession of the present route over the ghât, but as there are more formidable obstacles in the former than in the latter, I am disposed to advocate the ghât route, and I would very strongly urge the great desirability of facilitating, at least, this great obstacle to an otherwise easy track for wheeled traffic extending over 200 miles of country.

9. I regret that when I surveyed and estimated for the Bydessur and Sonopore road, my time was too limited to allow of my making a longitudinal section of the ghât route; for this information is very desirable; but to obtain it now, it would be necessary to devote a portion of the next working season to it, the whole of which would scarcely suffice to open out the road. I would, therefore, propose that a sum of 4,000 rupees be granted for the opening out, during next field season, of a road eight miles in length, with suitable gradients over the Puddumtolah Ghât, leaving the improvement of the remaining portion of the line for another season. Of course, in the determination of the best line, the executive engineer will adopt the precautionary measure of running trial lines up and down the ghât before the work of opening the road is commenced.

10. Simultaneously with the opening of the ghât road, should be undertaken the work of excavating a tank (or improving the present jheel) on the top of the ghât, which is a recognised halting place, being distant eight and twelve miles respectively from the halting grounds of Burmool and Harbhungah, or either side. The Rajah of Rewa, who experienced the great difficulties of the ghât road on his pilgrimage to Pooree in 1857, offered 6,000 rupees for the opening out of a proper road and the construction of a serai at Puddumtolah on the top of the pass.

I.
India,

From Mr. *W. C. Brown*, Executive Engineer, Raipore Road Division, to *F. Bond*, Esq.,
Officiating Superintending Engineer, Cuttack Circle, (No. 414, dated 25 March 1861).

I HAVE the honour to acknowledge receipt of your memorandum No. 151, dated 18th instant, forwarding a copy of letter No. 256A, dated 6th idem, from the Under Secretary to the Government of Bengal, having reference to communications for the export of cotton to England, as per supplement to "Calcutta Gazette," dated 2d March 1861.

2. In reply, I beg leave to state this is a proverbially cotton growing country, but the difficulties of the internal communication, from want of district roads and the dangerous nature of the navigation of the Mahanuddy River above this, have failed to develop its resources.

3. Cotton from Chunderpore, situated to the north-west of this, is brought here with difficulty, from want of a road and the danger of navigation. I firmly believe that a road to this place would be a great public benefit, and cotton would soon find its way here. I beg to submit a tracing of the locality of supply for this market.

4. I also think, if the road to Ranchee was repaired, the same good results would accrue by placing the river communication at Sumbulpore at disposal of the interior; a tracing is also submitted of this locality.

5. On my line of road to Calcutta to Kamarara there are two or three gradients in the hills at present impassable for wheeled traffic; I have ventured to express my belief that these can be made practicable. *Vide* Estimate No. 7, dated 3d August 1860, which, if sanctioned, no exertions on my part would be wanting to secure the same.

6. From the funds for the district roads mentioned in paragraphs 3 and 4, I venture to recommend the Road and Ferry Funds here be at once placed at my disposal, as I believe what sum there be is lying idle in the Treasury. No meetings of the committee are held, though I have on some occasions hinted at the same, and I feel assured a small sum will go a far way in internal improvements.

7. The road to Ranchee was deemed advisable to be made an imperial line by Mr. Cockburn, late Commissioner of Cuttack, in his letter No. 196, dated 17th February 1858, to Government; the suggestions may be deemed worthy of your consideration.

8. Mr. Cockburn also mentioned to me a project he had of blasting the rock in the main channel of the Mahanuddy river. I have always looked on this project with deep interest, feeling assured of its success, and anxious to participate in its labours as far as Sonapore at least.

9. I respectfully hope I have not troubled you with superfluous matter in mentioning all the above details; but, being interested in the opening out of a new country, I have ventured to avail of this opportunity to mention them.

PLAN.

See APPENDIX B.

From Lieutenant Colonel *C. B. Young*, Secretary to the Government of Bengal, in the Public Works Department, to the Superintending Engineer of the Behar Circle, (No. 2954, dated 3 July 1861).

YOUR Memorandum No. 3965 of the 19th April last, to the address of the Chief Engineer, with its enclosed communication from the Commissioner of Chota Nagpore on the subject of constructing new, and improving existing communications leading to cotton districts, having been laid before the Lieutenant Governor, I am now instructed to convey the following orders in reply:—

2. It is unnecessary to refer to the general views of the Lieutenant Governor on this important subject, as they, together with the Commissioner's letter under acknowledgement, and the entire connected correspondence have been published for general information in the supplement to the "Government Gazette."

3. The principle laid down is to make roads to where cotton is now grown; not to where possibly in after years cotton may be grown. Upon this principle the following are the works which appear necessary to be done now in the Chota Nagpore Division.

4. To convert the existing track between Chattra and Champaran into a good road for cart traffic, you are requested to submit an estimate for carrying out this work, which, the
Commissioner

Commissioner says, can be done cheaply and with ease, as the line lies through an open level country the whole way.

5. To make a cart-load from Singbhoom to the railway. This road should go from Toldonah on the Grand Trunk Road, through Purulia, to Chyebassa; and you are requested to call for and submit a survey of the proposed road, which should be an imperial line of communication.

6. To open out as far as practicable the existing tracks by which cotton is now brought to Chattra. On this point more detailed information is requisite.

7. You will submit an early requisition for any assistance which may be necessary to enable you to give effect to these orders.

I.
India.

From Lieutenant Colonel *C. B. Young*, Secretary to the Government of Bengal, in the Public Works Department, to the Commissioner of the Patna Division, (No. 2957, dated 3 July 1861).

WITH reference to your letter, No. 96, dated the 9th May last, to the address of the superintending engineer, Behar Circle, which has been laid before the Lieutenant Governor, I am directed to inquire what quantity of cotton might be expected to be exportable from Bidjeyghur, supposing the road proposed to that place were made.

From Lieutenant Colonel *C. B. Young*, Secretary to the Government of Bengal, in the Public Works Department, to the Superintending Engineer of the Northern Circle, (No. 2958, dated 3 July 1861.)

I HAVE laid before the Lieutenant Governor your letter, No. 702, of the 30th April last, to the address of the Chief Engineer, relative to the improvement of internal communications for the purposes of cotton traffic; and in reply am instructed to state as follows:—

2. You are requested to call for and submit a survey of the line from Pulsa to Nonihaut, proposed by you. For a portion of this road, viz., from Pulsa to Mahooagurhee, a survey has already been required in connexion with the question of Sanataria.

3. Also for a survey from Taljeera to Burhait.

4. You are likewise requested to expedite the submission of the Bahawa and Burhait Report which has frequently been asked for.

5. As also to submit a report on the present state of the Soory and Bhaugulpore road.

6. You will submit an early requisition for such assistance as may be necessary to enable you to give effect to these orders.

From Lieutenant Colonel *C. B. Young*, Secretary to the Government of Bengal, in the Public Works Department, to the Superintending engineer of the Cuttack Circle, (No. 2961, dated 3 July 1861).

YOUR Letter, No. 38, of the 20th May last, with its several Enclosures, on the subject of facilitating the transit of cotton produced in the interior of the Cuttack provinces to the seaboard, having been laid before the Lieutenant Governor by the Chief Engineer, to whom it was addressed, I am now instructed to convey the following orders for your information and guidance:—

2. An estimate should be forwarded for constructing an imperial road from Cuttack to Sonapore, arrangements being made for commencing as soon as possible that portion of it which goes over the Burmool Pass, which was estimated by Mr. Bond, the Executive Engineer, to cost 8,200 rupees, to which amount sanction is hereby accorded.

3. A report with approximate estimate should be submitted, showing the cost and advantages of extending the above line to the Sumbulpore road as recommended.

4. Lastly, arrangements should be made for reconnoitering and obtaining a rough survey of the road proposed from Sumbulpore to Chunderpore, provided cotton fit for exportation is produced at the latter place.

I.

India.

From Lieutenant Colonel *C. B. Young*, Secretary to the Government of Bengal, in the Public Works Department, to the Superintendent of Darjeeling, (No. 2964, dated 3 July 1861).

* No. 702 of 30th April 1861.

1. From Mettigurha to Gorawara and the Teesta River.
2. From Garidhoora to Titalya, *viâ* Ramdanga and Phansedeewa.
3. From Nakeswurbary on the Meehi River to the Darjeeling Road near Besebatti.

I AM directed to forward the annexed extracts, paragraphs 11 to 13 of a letter* received from the Superintending Engineer of the Northern Circle, embodying your views in regard to improving communications leading to cotton growing districts; and to request you will report, at an early a date as possible, the probable cost of making the three roads therein proposed by you, for the consideration of Government.

MEMORANDUM from Lieutenant Colonel *C. B. Young*, Chief Engineer, Lower Provinces, (No. 1212, dated 25 June 1861.)

IN continuation of the Memorandum from this office, No. 1201, dated the 25th instant, the Chief Engineer, Lower Provinces, has the honour to submit, for the information of the Honourable the Lieutenant Governor of Bengal, the letters noted on the margin,* from the superintending engineers of the Burdwan and Assam circles, respectively, reporting relative to the improvement of internal road communications, with the view of increasing the facilities for transport of cotton.

* Superintending Engineer, Burdwan Circles, No. 546, dated 13th June 1861.

Superintending Engineer, Assam Circles, No. 234, dated 7th June 1861.

2. In the Burdwan circle, beyond the proposed imperial line from Burdwan, to Midnapore, the only roads mentioned are some branch ones in the Midnapore district from Dantoon to Debrah, and from Dantoon to the Kalleaghye River.

3. As regards Assam, the chief and only want on the south side of the river is the making of the Assam Trunk Road, from Doobaree to Debrooghur; a similar trunk line is suggested on the north side of the river, from Tezpore to Luckimpore, but this is not of the importance of the trunk road on the south of the river.

From Captain *W. D. Short*, Superintending Engineer, Burdwan Circle, to the Chief Engineer, Lower Provinces, (No. 546, dated 13 June 1861).

Sir,

* No. 987 of 11th March 1861.

IN reply to Secretary to Government of Bengal, Public Works Department's letter* on the subject of improvement of internal road communications, with the view of increasing the facilities of transport of cotton, I have the honour to report that I communicated with the civil officers, as also with others, from whom valuable information might be obtained, and beg to embody the result in the following report.

2. The Collector of Midnapore states that his is not a cotton growing district, but that much of the staple is imported into the towns of Jellasure and Dantoon, from districts to the westward, that is, west of the Midnapore and Rajghat Road, and that improved roads are required from Dantoon to the Balleaghye (which is the point to which the tides serve *viâ* the Russoolpore River through Hidgellee), and from Kassiaree (west of Dantoon) to Debra. To meet the above requisition, I have issued detailed instructions to estimate for the roads in question, and I trust soon to place the subject before you.

3. In my opinion, the great want of the country in the Midnapore district, is good branch roads connecting the main imperial lines with the nearest tidal communication, as cotton will not stand a heavy land traffic, and wherever good tidal communication can be readily reached every requirement of traffic is met.

4. My own experience of the Midnapore district, leads me to point it out as specially adapted for the growth of cotton, for in many of the embanked pergunnahs, there is a rich black loam, well suited for the purpose; and if cultivation could be fostered, the water communication available would allow of its being delivered at Calcutta at a very reasonable rate, and I would undertake to provide irrigation from the Cossye throughout the dry weather. Indeed, I am about to effect this for the purpose of rearing a rubbee crop, and there is no reason why 1,00,000 acres should not yearly produce cotton, if the investment is found profitable. I will, however, ascertain and report at what price the material could be delivered at Calcutta, whilst the branch roads and canals for the district will be separately reported on.

5. The Collector of Burdwan reports that the road most required to be put in order for the traffic of Indian cotton, is the projected imperial line to connect Burdwan with Midnapore, so that this will be an additional incentive to complete and open out the route as early

as possible. The old road between Moorshedabad and Burdwan is also mentioned by the collector, but the new Imperial line projected direct from Berhampore to the railway will meet this requirement.

I.
India.

6. At present, not only are the water communications (whereby the bulky staple of cotton is most cheaply conveyed), but the branch internal communications incomplete; however, of late, very great progress has been made in the Imperial roads, the fruits of which will soon tell; but as far as my experience goes, I conceive that when the native landlords clearly understand the advantages of the traffic in cotton, and respectable parties are in a position to undertake and fulfil contracts for the supply of the material, the Government will find that very large tracts of country within this superintendency, will furnish the material.

7. In conclusion, I would add that there is at present every facility to produce cotton throughout Pergunnahs Cassijorah, Mynachour, Sabbung, over an area of about 1,00,000 acres in the Midnapore district, and to convey it by water to Calcutta, but its production can only be ensured by private enterprise, that is by firms in Calcutta sending agents to superintend the working out of the advances which it would be necessary to make; and if the resident population could once surmount the novelty of a new kind of cultivation, and at the same time find it remunerative, they would doubtless take to the business kindly and regularly, and have the additional return from their regular abundant rice crops.

From Lieutenant-Colonel *D. Reid*, Superintending Engineer, Assam Circle, to Lieutenant Colonel *C. B. Young*, Chief Engineer, Lower Provinces (No. 234, dated June 1861).

IN reply to Secretary of Government letter, No. 256 A, of the 6th March last, received with your docket No. 987 of the 11th March last, I have the honour to state as my opinion, that a good road, well raised above all floods, should be made from one end of Assam to the other.

2. The road to be thoroughly useful should commence below Goalparah at "Dooburee," and then coolies from Bengal would be more likely to come into Assam.

3. The postal authorities should urge this, as it would shorten the time of dâk transit from Calcutta to Gowhatty by some three days, two certainly.

4. The road from Debrooghur to Golaghat, for a kucha road, is a very fair one, and with three-fourths of it as good as a kucha road without pukka bridges possibly could be, so that mere repair is all that is wanted for this road from Debroo to Golaghat at present.

5. But for the road from this to Nowgong a gang of coolies should be sent up to raise the road, and widen it, and fill in breaks, and once this has been done, and a well-raised road is made, then it will be easy to keep it in repair by keeping up a small gang of men all the year round.

Gowhatty to Nowgong.

6. As for the road from Gowhatty to Gowlparah, it may be said that it remains to be made, and I am now employed in making out a map of my late tour along the line, and when completed and estimate prepared I shall send on for approval.

Gowhatty to Gowlparah.

7. I have been careful to consult the local authorities as well as be guided by the experience of the natives in selecting the best line of road from this to Goalparah.

8. If cotton is likely to be grown on the north bank, the road from Tezapore on to Luckimpore might with advantage be made a good one, and certainly the population of the north bank should have advantage of road communication.

9. Very few branch roads from the Grand Trunk one would be required, as there are many good rivers that cross the road fit for navigation of boats of good size all the year round, so that the main road (or roads if to be on both banks) is what is first wanted.

10. But, as I have often before asked, How make the road? Where is the labour to come from? With imported labour the cost would, I fear, be very heavy owing to desertions; men too would not be likely to take employment under five rupees per mensem, if entering into agreement to serve for two years.

11. Would that Government allowed of my scheme being carried out! one that has the approval of all in Assam who care about the welfare of the provinces, viz., to import convict labour into this province, say 3,000 men, 2,000 for the Gowlparah and Gowhatty road, and 1,000 for road from this to Nowgong. To make these roads first, two years, or three at the utmost, would suffice.

12. I will here venture to assert that many hundreds of convicts would be reclaimed from misery if properly treated; feed and clothe them well, and put them in gangs on the road, making the best behaved men duffadars over the others, and with the hope held out to them of their terms of imprisonment being shortened when real good-will and zeal has been shown.

I.
India.

It is sure Government would gain in many ways by such a fatherly treatment of the unfortunate convicts.

“The quality of mercy is not strained;
It droppeth, as the gentle rain from heaven,
Upon the place beneath; it is twice blessed;
It blesseth him that gives, and him that takes.”

13. It need not be feared making Assam a penal settlement, and it can scarcely be said that the mere importing convict labour as a temporary measure would bring it to this; and even if it did, fresh blood is wanted amongst the natives of Assam, and the more foreigners that settle down, although they may be released (happily reformed) convicts, the better for the country.

14. In conclusion, I trust I shall be excused reverting to this vexed subject again, but I cannot avoid it, for our “means” must be looked to, for mere repair to roads imported labour will suffice once the roads are properly formed; but to import free labour on a large scale will be difficult and very expensive. I shall still hope, however, that in this my views may turn out to be incorrect, and that the 500 Bengal coolies you propose sending up for the works in Assam may prove that we may still trust to Bengal for free labour.

From Lieutenant-Colonel *C. B. Young*, Secretary to the Government of Bengal, in the Public Works Department, to the Officiating Commissioner of the Burdwan Division—(No. 2977, dated 5 July 1861).

I AM directed to forward, for such remarks as you may wish to offer as to the utility or otherwise of the roads recommended, copy of a letter* from the superintending engineer of the Burdwan Circle, suggesting the construction of two roads from Dantoon to the Ballaghie River, and Kasharee to Debra, with a view to assist cotton on its way from the districts to the westward of the Imperial line to Cuttack.

* No. 546 of 13th
June 1861.

From *R. N. Shore*, Esq., Officiating Superintendent of Tributary Mehals, Cuttack, to the Secretary to the Government of Bengal—(No. 22, dated 27 June 1861).

I BEG, with especial reference to the late instructions, to take every opportunity for suggesting means for improving the means of communication, and so far increasing the supply of cotton, to solicit the attention of Government to the correspondence, in pages 73 to 79, of the Selections of the Records of the Bengal Government, No. XXXV.,† in regard to the improvement of the navigation of the Mahanuddy:

† Part II.

2. It was proposed to employ, if available, Madras Sappers and Miners on the task of clearing the bed of rocks, but the Government of India decided to defer consideration of the subject until receipt of Captain Harris' report.

3. All Captain Harris' reports have now been sent in; but I respectfully submit that though they are closely connected with the question of improving the bed of the Mahanuddy, the particular measure now suggested might be carried out without reference to his general plans, and with certain and immediate benefit to the cotton trade.

4. In the mean time, however, a detailed survey of the river as far as Sonapore has been made by Mr. M'Millan, from whose report (Appendix 3 of Captain Harris' last report on the district) I gather that there are only seven very serious obstructions to the navigation so far, and that these might be removed at an expense of 200 or 300 rupees each, little more than 2,000 rupees in all. I would now solicit, as suggested to me by the superintending engineer of this circle, that Mr. Brown, the executive engineer of Sumbulpore, be directed to complete the survey of the river at all events to Sumbulpore, and if possible for some ten or fifteen miles further, where the worst obstructions are stated to exist.

From Lieutenant-Colonel *J. P. Beadle*, Officiating Secretary to the Government of Bengal, in the Public Works Department, to the Superintending Engineer of the Cuttack Circle—(No. 3195, dated 18 July 1861.)

THE attention of Government has been called to the records of the Bengal Government, No. XXXV., Part II., with special reference to the navigation of the Mahanuddy, in a letter written by the officiating superintendent of Tributary Mehals.

‡ Two Thousand.

2. The Lieutenant Governor authorises an expenditure not exceeding 2,000‡ rupees being incurred in the immediate removal, to the extent contemplated by Mr. M'Millan in his letter No. 22, dated 5th April 1859, of the seven very serious obstructions to the navigation therein described.

3. The

3. The Lieutenant Governor has acceded to this measure on the recommendation of the officiating chief engineer, who has stated his confidence in every rupee of the money being laid out to advantage by Mr. McMillan, who has a personal knowledge of each of the seven places to which he has directed attention in his report (Appendix 3 to last Report printed), and who will therefore know how to set about and to carry out the works, in which the officiating executive engineer will be directed and assisted by yourself. But the Lieutenant Governor inclines to think a much larger measure will eventually be necessary, and the chief engineer has been directed to prepare a scheme for the improvement of the navigation of this river, to be carried out in the next year.

4. In the meantime such improvements as can be made should be carried out with the sum now authorised for expenditure.

5. The Lieutenant Governor desires that you will call for and submit an early report on the obstruction in the bed of the Mahanuddy above Sumbulpore, which has been described by a Mr. Meik, and is adverted to in the 6th and 7th paragraphs of Captain Harris' Report, No. 44, dated 17 June 1858.

From Lieutenant-Colonel J. P. Beadle, Officiating Secretary to the Government of Bengal, in the Public Works Department, to the Officiating Superintendent of Tributary Mehals, Cuttack.—(No. 3197, dated 18 July 1861).

THE superintending engineer of the Cuttack Circle has been addressed in the accompanying letter, No. 3195, of this day's date, with advertence to your No. 22, dated the 27th ult., on the subject of the improvements which the local officers consider it is practicable to make, at a small outlay, in the bed of the Mahanuddy River.

2. The Lieutenant Governor directs me to acknowledge the receipt of your letter, and to say that, in authorising this outlay for such small remedial measures as may be immediately practicable, he has called upon the chief engineer to prepare a regular scheme for improvements of the navigation of the Mahanuddy to be considered in the next year's schedule of works and expenditure.

— No. 27. —

PUBLIC WORKS DESPATCH to India, dated 23 November (No. 63, 1861).

Para. 1. I HAVE had before me in Council the correspondence transmitted with your letter No. 55, dated 20th August last, on the subject of improving the communications leading to the cotton growing districts in Bengal.

2. I am glad to observe that arrangements have been made for this purpose in Chota, Nagpore, Cuttack, and other districts, and that attention has been drawn to the possibility of improving the navigation of the Mahanuddy, with the view of rendering that river available for the transport of cotton.

3. With reference to some alleged obstacles to the application of private enterprise, they will be more properly dealt with in the Revenue Department when they are reported in that department.

4. The papers under review appear to me to contain information likely to be useful to the Manchester Cotton Supply Association, to whom therefore I caused them to be communicated.

C. Wood.

— No. 28. —

EXTRACT Bengal Revenue Consultation, April 1861.

From H. L. Dampier, Esq., Secretary to the Board of Revenue (No. 234, dated 2 April 1861).

SUBMITTED for the consideration and orders of the Government of Bengal, with the Board's recommendation that, if practicable, the collector of Kamroop may be supplied at an early date with the cotton seed applied for.

Application of collector of Kamroop for cotton seed.

I.
India.

MEMORANDUM from Captain *H. Hopkinson*, Commissioner of Assam (No. 3, dated 23 March 1861.)

FORWARDED to the Secretary to the Board of Revenue, Lower Provinces, with a recommendation that the collector's request may be complied with by the Board.

From Captain *E. P. Lloyd*, Collector of Kanroop, to Captain *H. Hopkinson*, Commissioner of Assam (No. 110, dated 23 March 1861).

I AM anxious to introduce into this district cotton of a superior staple and fibre to the indigenous plant now extensively cultivated in this district; and as the sowings take place in the month of May, I beg to solicit the favour of your making an application for a dozen barrels of American cotton seed.

From *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal, to the Secretary to the Bengal Chamber of Commerce (No. 438 A, dated 11 April 1861).

AN application has recently been made to Government for a dozen barrels of American cotton seed; and as there is not any procurable from the Agricultural and Horticultural Society, I am requested to inquire if the Chamber are aware of any other source from which cotton seed may now be procured.

From *H. W. J. Wood*, Esq., Secretary, Bengal Chamber of Commerce, to *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal (dated 18 April 1861).

WITH reference to your letter No. 438 A, of the 11th instant, I beg to refer you to Messrs. Mosley and Hurst, Secretaries to the Manchester Cotton Supply Association, who will be able to give you the necessary information on the subject—the American cotton seed applied for.

From *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal, to Messrs. *Mosley* and *Hurst*, Secretaries to the Manchester Cotton Supply Association, Calcutta (No. 14, dated Camp Parisonath, 22 April 1861).

AN application has recently been made to Government by the collector of Kamroop for a dozen barrels of American cotton seed, and as there is not any procurable at present from the Agricultural and Horticultural Society, I am directed to inquire whether you know of any place in Calcutta where such seed may now be had.

— No. 29. —

EXTRACT Bengal Revenue Consultation, May 1861.

From Messrs. *Mosley* and *Hurst*, Honorary Agents, Cotton Supply Association, to *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal, Lieutenant Governor's Camp, Parisnath (dated 24 April 1861).

WE have the honour to acknowledge receipt of your favour of the 22d instant, No. 14, conveying an application from the collector of Kamroop for a dozen barrels of American cotton seed, which we regret to say are not at present procurable

procurable in Calcutta. We may, however, mention that on this date we received a letter from the Association which we represent, stating that they were shipping to the Government of India, on the 16th March, 200 bushels of seed, 100 bushels for the Andaman Islands, where cotton flourishes most remarkably, and 100 bushels to be disposed of as the Government might think fit.

I.
India.

From *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal, to *Rivers Thompson*, Esq., Officiating Secretary to the Board of Revenue, (No. 542 A., dated the 18th May 1861).

WITH reference to Mr. Dampier's endorsement, No. 234, dated the 2d ultimo, communicating the Board's recommendation that the collector of Kamroop may be supplied with a dozen barrels of American cotton seed, I am directed to say that every endeavour has been made to procure the seed in Calcutta, but without success.

Some cotton seed has lately been shipped for India from England, and a note has been made of the quantity required for Kamroop.

— No. 30. —

EXTRACT Bengal Revenue Consultation, April 1861.

From *E. H. Lushington*, Esq., Commissioner of the Nuddea Division, to the Secretary to the Government of Bengal (No. 18, dated 13th April 1861).

REFERRING to your letter, No. 1449, dated the 16th June 1860, I have the honour to report, for the information of Government, that the New Orleans cotton seed which was forwarded to me for gratuitous distribution, was distributed to the grantees named in the margin, but they agree in stating that the seed would not grow. This was also the case in the Government lot No. 54.

Distribution of
New Orleans
cotton seed.

Shibchunder Mullick.
Mohunchand Ghose.
Soorjonauth Sircar.
R. Morrell, Esq.

From *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal, to the Commissioner of Nuddea (No. 72, dated Camp Parionath, 26th April 1861).

IN acknowledging the receipt of your letter, No. 18, dated the 13th instant, reporting the failure of the trial of the New Orleans cotton seed in your division, I am directed to request that you will give fuller information as to the districts where the experiment was tried, the kind of soil used, and the time of sowing the seed.

2. Such particulars, I am directed to say, should not have been omitted in reporting the result of so important an experiment.

— No. 31. —

EXTRACT Bengal Revenue Consultation, April 1861.

From *W. S. Seton-Karr*, Esq., Secretary to the Government of Bengal, to the Secretary to the Bengal Chamber of Commerce (No. 450 A., dated 17 April 1861).

Deputation of Mr.
P. Saunders to
cotton districts.

I AM directed to acknowledge the receipt of your letter, dated the 23d ultimo, and to state that, immediately on its receipt, the Lieutenant Governor addressed the Government of India on the subject of the deputation of Mr. Paterson Saunders, in a letter, a copy of which is enclosed.

2. The Government of India, on the 13th instant, has sanctioned the recommendation made in the 5th paragraph of that letter, on the understanding that the period during which Mr. Saunders will be occupied on this inquiry will not

I.
India.

extend beyond a few months. The Government of India has also approved of the place of working recommended in the 6th paragraph of my letter of the 26th ultimo, and the several Commissioners have been informed accordingly, and have been requested to give Mr. Saunders all the assistance and information in their power.

3. On receiving a reply to this letter, the appointment of Mr. Saunders will be duly made, and notified in the "Gazette."

Circular from *H. Bell*, Esq., Under Secretary to the Government of Bengal, to the Commissioners of Patua, Bhaugulpore, Rajshahye, Chittagong, Dacca, Nuddea, Burdwan, Cuttack, Arracan, Assam, Chotta, Nagpore; and Superintendents of Cachar, and Darjeeling (No. 451 A, dated 17 April 1861).

I AM directed to inform you that the Government of India, on the recommendation of the Lieutenant Governor, has sanctioned the deputation of Mr. Paterson Saunders, senior, into the interior, with a view to ascertain where there is a likelihood of cotton being produced in considerable quantities. Should the researches of Mr. Saunders lead him to any district in your division, it is particularly requested that you, and your executive local officers, will afford Mr. Saunders every possible aid and information, and if it should appear that any local line of traffic could be immediately improved, so that it would bring more cotton into the market without delay, such a work can be undertaken by the Ferry Fund Committee, or the magistrate of the district.

2. As the inquiry on which Mr. Saunders is about to engage is one of the first importance, I am desired to request that you will pay particular attention to these instructions, and direct the local officers subordinate to you to do the same.

— No. 32. —

EXTRACT Bengal Revenue Consultation, May 1861.

From *H. W. J. Wood*, Esq., Secretary to the Chamber of Commerce, to *W. S. Seton-Karr*, Esq., Secretary to the Government of Bengal (dated 27 April 1861).

I BEG to acknowledge the receipt of your letter, No. 450 A, of the 17th inst., which has been communicated to Mr. Paterson Saunders, senior, and I am directed to forward the annexed copy of his reply for the information of the Honourable the Lieutenant Governor.

From *P. Saunders*, Esq., Senior, to *H. W. J. Wood*, Esq., Secretary to the Chamber of Commerce (dated 24 April 1861).

I AM in receipt of your favour of 22d current, with enclosures from the Secretary to the Government of Bengal.

I accept the terms proposed in the 5th paragraph of the Secretary to the Government of Bengal's letter to the Secretary to the Government of India, and with reference to the condition stated in paragraph No. 2 of the Secretary to the Government of Bengal's letter to yourself, I have to say, that I do not wish that the appointment be continued one day after my services may no longer be required.

A journey to Chittagong, the Garrow Hills, Assam, &c., will require some time for preparation. I must have a pinnace, crew, &c.; I am also suffering from an accident, and I trust, therefore, some time will be permitted to me to get well, and make the necessary preparations.

From *H. W. J. Wood*, Esq., Secretary to the Bengal Chamber of Commerce, to *E. H. Lushington*, Esq., Secretary to the Government of Bengal, (dated the 23d May 1861.)

THE Committee of the Chamber of Commerce, while expressing their satisfaction on the deputation of Mr. Paterson Saunders, senior, to the cotton producing districts, especially to those in the upper provinces in the first instance, desire me to add that they will be glad if the Honourable the Lieutenant Governor will be pleased to furnish the Chamber with such information from Mr. Saunders' reports to Government as, in His Honour's opinion, may be of interest to the commercial community.

From *E. H. Lushington*, Esq., Secretary to the Government of Bengal, to the Secretary to the Bengal Chamber of Commerce, (No. 580 A., dated the 31st May 1861.)

I AM directed to acknowledge the receipt of your letter, dated the 23d instant, and to intimate in reply that the request of the Chamber to be furnished with such information from Mr. Paterson Saunders' reports on the subject of the cotton cultivation as may be of interest to the commercial community, will be duly attended to.

— No. 33. —

EXTRACT Bengal Revenue Consultations, June 1861.

From *H. W. J. Wood*, Esq., Secretary to the Bengal Chamber of Commerce, to *E. H. Lushington*, Esq., Secretary to the Government of Bengal, (dated the 25th May 1861).

THE Chamber of Commerce has placed at the disposal of Mr. Paterson Saunders, senior, a ton of cotton seed, and I have been requested to forward it to Mr. Saunders at Benares. He tells me that Mr. Seton-Karr mentioned that the Government would give orders for the transmission of the seed by bullock train free of charge; and I shall feel obliged by your giving me an order to the postmaster of Calcutta, to receive and dispatch the seed free to Benares.

From *H. Bell*, Esq., under Secretary to the Government of Bengal, to the Postmaster General of Bengal, (No. 591 A, dated the 4th June 1861.)

I AM directed to request that you will have the goodness, in communication with the Secretary to the Bengal Chamber of Commerce, to cause the dispatch by Government bullock train to Benares, of a ton of cotton seed intended for Mr. Paterson Saunders, senior, the Commissioner appointed to report on the cultivation of cotton.

— No. 34. —

EXTRACT Bengal Revenue Consultations, July 1861.

From *P. Saunders*, Esq., Senior, Commissioner to Report upon the Cultivation of Cotton, to *E. H. Lushington*, Esq., Secretary to the Government of Bengal, (dated Cawnpore, the 12th July 1861).

I HAVE the honour to submit, for the consideration of His Honour the Lieutenant Governor of Bengal, the following communication on the subject of growing cotton in India, suggested to me by a perusal of His Excellency the Viceroy, and Governor General in Council's reply to Mr. Haywood, the Secretary

I.
India.

of the Cotton Supply Association, and the subsequent official correspondence of his Honour the Lieutenant Governor regarding the establishment of Government factories in the Chittagong Hills, for buying, cleaning, and screwing Hill cotton.

2. I would respectfully promise that if, in making this communication, I am stepping in any way out of my province, the deep interest I take in the successful cultivation of cotton in India will be my apology for so doing.

3. In the 8th paragraph of His Excellency the Viceroy, and Governor General in Council's letter, the Cotton Association is reminded that the general testimony of all the best qualified observers, American as well as English, goes to prove that in the details of cultivation the native of India has little or nothing to learn from the agriculturists of other quarters of the globe, and that it is only in the gathering, cleaning, and transport of cotton, and not in its cultivation, that much improvement can be expected.

4. On this statement I have respectfully to remark, that however correct it may be with regard to agricultural produce generally, it is not so, as far as my experience goes, with regard to the cultivation of cotton, and as the adoption of this statement, and its application to future enterprise in cotton, governmental or private, would be attended with injurious consequences, I shall proceed to show in what respects it is not correct.

5. No product of the soil with which I am acquainted, derives greater benefit, both in quantity and quality, from good cultivation than cotton, and none is more injured in both respects by slovenly and bad cultivation.

6. The Americans, who have studied for many years the cultivation of cotton, and have compiled volumes on the subject, plant their cotton in lines four feet apart, and each shrub a foot and a half to two feet distant from each other. In this manner the cotton tree monopolises the nourishment of a good space of ground around it, while from the breadth of the lines there is a free ventilation of air, and the leaves absorb the atmospheric gases that are necessary to the vigorous growth of the tree, and the production of a large healthy pod.

7. The natives of these provinces sow their cotton broadcast, frequently with other crops, and thus the cotton trees are crowded together, oppressed by other crops, have but a small share of the nourishment of the soil, and are nearly altogether deprived of the ventilation of air. The result is, that the tree is stunted, the pods are small and few, the fibre of the wool is exceedingly weak and the staple shorter than it otherwise would be. The Kookees in the hills sow their cotton also with heavy crops of sweet rice, Kookee potatoes, &c., and the result is the same.

8. To continue such a method of cultivation, without an endeavour to improve it, and to teach the natives how to improve it, would, in my opinion, be fatal to the successful cultivation of cotton on this side of India.

9. His Honour, the Lieutenant Governor, in proposing the establishment of Government factories in the Chittagong Hills, has very pertinently and happily alluded to the successful introduction of tea planting and its manufacture into this country through the action of Government; but to make the parallel complete, the people must be taught to cultivate cotton, as they were taught to cultivate tea.

10. I would, therefore, venture to suggest that a cotton plantation of one or two hundred acres, be attached to the Government factory, that it be planted with Egyptian or New Orleans seed, and cultivated after the most approved method.

11. The difference in the value of cotton cultivated as the Americans do, and as the natives do, is from 30 to 40 per cent., while the increase in quantity is as four to one.

12. All the care that we can bestow on the gathering, cleaning, &c., of cotton, will not add one grain of strength to its fibre, or one line to the length of its staple; good cultivation increases both.

13. By attaching a plantation to the Government factory, the native growers who

who brought their cotton for sale, would have an opportunity of seeing the superior method of cultivation, and learning the higher value of the cotton, and the increase of produce.

14. As in the case of tea, when Government largely distributed seed and seedlings, so also could good seed be distributed to the natives.

15. The same establishment required for the superintendence of the factories, would, I imagine, suffice for the superintendence of the plantation.

16. On the above principle, a company is about to be formed to cultivate and purchase cotton on the banks of the Gogra, in Oude, and as the gentlemen of Lancashire have been specially invited to take shares, and as there can be no doubt that they will readily and gladly seize upon the opportunity thus afforded them of promoting the cultivation of cotton in India, there is every prospect of the company being soon established, and commencing its operations.

P. S. I have spoken of my experience as to the relative values of good and badly cultivated cotton, and I think it will not be out of place, if I give one example of it.

In the year 1828, I was deputed to purchase cotton in the province of Magdalena, Republic of New Granada, and I purchased many ship loads. I dealt alone with the great hacendados or landowners, and purchased cotton of two qualities, but all grown from the same seed.

The first was sown by the Indians, mixed with Indian corn, and sometimes broadcast in the forest, was collected by them, and sold in the seed state to the hacendados, who ginned, cleaned, and packed it. For this cotton, I paid on an average, six dollars the quintal, or 100 lbs. weight.

The second was sown and cultivated with care by the hacendados themselves, and for it I paid on an average eight dollars the quintal. The first realized in Liverpool, about 4*d.* a lb.; the second realised about 5½*d.* a lb. The difference of such prices, when we come to deal with millions of lbs., amounts to that which will either make or mar a great commerce.

From *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal, to *P. Saunders*, Esq., Senior, Commissioner for enquiry into the Cotton Cultivation (No. 751A, dated 24 July 1861).

I AM directed to acknowledge the receipt of your letter, dated the 12th instant, and in reply, to convey the thanks of the Lieutenant Governor for the suggestion it contains, which appears to him valuable and practicable.

— No. 35. —

EXTRACT Bengal Revenue Consultations, May 1861.

From *Browne Wood*, Esq., Deputy Commissioner, Sonthal Pergunnahs, to the Officiating Commissioner of Bhaugulpore (No. 256, dated 13 April 1861).

WITH reference to your office memorandum, No. 30 of the 19th ultimo, forwarding correspondence as per margin,* calling for a report as to the practicability of extending the cultivation of Indian cotton in this division, I have the honour to state, that a very small quantity of cotton is now cultivated here, and the same confined exclusively to Sonthals and Pahareas. It was at one time cultivated somewhat extensively by these people, and good and durable cloths made of it by Jolahs and Momius, Mussulmans, who have been settled in the Damun for many years; these latter, however, now make use of European made thread,

Cultivation of cotton, Sonthal Pergunnahs.

* No. 256 (A) dated 6 March 1861, from Secretary Bengal Government, to Secretary Revenue Board, and Governor General's Resolution, dated 28 February 1861.

I.
India.

thread, which they are able to procure cheaper at the different markets than thread made by Sonthals; the cultivation of cotton is therefore rapidly diminishing in the Damun, and in the course of time will doubtless cease altogether; the Sonthals take little pains with their cultivation; cattle generally graze down the greater portion of crop before it comes to pod; what little is now gathered appears to be of good quality. I send herewith a small sample of cotton grown in the Damun-i-Koh, of American seed, given to Sonthals a few years ago by Mr. Pontet.

2. There are extensive tracts of fine lands within the Damun, at the base of the hills, well adapted for cotton cultivation, every variety of soil being available. The climate, however, is not, I think, sufficiently moist, and irrigation would be needed to secure regular and good crops. Embankments for this purpose might easily be thrown across gauges in the hills, which would intercept an abundant supply of water during the rains for irrigation. Embankments might be made sufficiently large and numerous to irrigate extensive tracts of country now lying waste in jungle.

3. Sonthals and Pahareas would not have the means nor the inclination to cultivate cotton extensively; and I think the only sure means of extending its cultivation would be to induce European capitalists and settlers to undertake it; and as the Damun is the khass property of Government, there would be no difficulty in portioning out grants of land in hundreds or thousands of beegahs to European settlers. Such grants might be on the same terms as jungle lands are leased out in Assam, or sold in fee-simple, as is done in Darjeeling. Such a measure would, I am confident, soon bring thousands of beegahs of fine lands under cotton cultivation, which at present lie profitlessly waste in jungle.

4. There would be no lack of labour, as the cultivation of cotton is of a light and easy nature, and well suited to Sonthals and Pahareas; there whole families could be engaged in such cultivation, the men in hoeing and ploughing lands, and making embankments, the women and children in weeding; and during crop time, all might assist in gathering the crop. The East Indian Railway runs close to the base of the Rajmehal Hills for some 55 miles, and nowhere in this division is it more than eight miles from the hills; transport would thus be close at hand, the cotton, when picked, sorted and pressed, might be at once sent to Calcutta, and thence exported to Europe.

5. Last year Mr. Commissioner Yule sent me, the latter end of July last, two casks of American cotton seed, and desired me to distribute some to the Sonthals and Pahareas, which I did; but I regret to say none of it germinated, it having been sown much too late in the season. I tried some in my own garden without success. Cotton seed should be sown latter end of May, or commencement of June, so as to have the benefit of early rains.

6. Press of official work prevented me sending this report so early as I could have wished.

From *P. Saunders, Esq.*, Senior, Commissioner to report on the Cultivation of Cotton, to the Secretary to the Government of Bengal, (No. 1, dated 20 May 1861.

I HAVE the honour to acknowledge the receipt of a communication from Mr. Browne Wood, forwarded to me through the Chamber of Commerce, and, accompanying it, four samples of cotton.

2. I think it desirable that a report upon this cotton should be forwarded to Mr. Wood, for his information and guidance, and I beg, therefore, to annex one on the other side. I also forward a sample of American cotton, middling quality, which is the kind alluded to in the annual report. Mr. Wood will, no doubt, find it useful.

REPORT upon the Samples of Cotton sent by Mr. Wood.

COTTON grown in the Damun-i-Koh from American seed introduced some years ago by Mr. James Pontif.

Fair stapled, strong fibred, good coloured, very clean, valuable cotton, interesting as showing that the American seed does not always degenerate in this country, as this is fully equal to middling New Orleans, and would fetch the same price in Liverpool.

Cotton grown from American seed, in Rajmehal, by Mr. Wood, gathered 1860.

Fair staple, fibre moderately strong, colour good, worth about $\frac{1}{2}$ d. per pound less than middling New Orleans.

Cotton gathered from same plant in 1861.

Staple shorter than the above, but stronger fibre, colour the same, value about one farthing less per pound. The great shortness and curl in the staple shows a slight tendency to revert to the type of the indigenous plant, but the lint is much more easily separated from the seed than in the first; cotton from Ghazeepore selling at Rajmehal at $2\frac{1}{2}$ seers per rupee.

Short stapled, weak fibred, indifferent coloured cotton, totally unsuited for manufacturing purposes; it would not bring a higher price at Liverpool than at Rajmehal, as $2\frac{1}{2}$ seers per rupee is nearly equal to 5 d. per pound. It is presumed, however, that this is merely the bazaar retail price.

— No. 36. —

EXTRACT Bengal Revenue Consultations, May 1861.

From A. H. Blechynden, Esq., Secretary, Agricultural and Horticultural Society, to the Secretary to the Government of Bengal (dated 20 April 1861).

I AM directed by the council of the Agricultural and Horticultural Society to solicit that you will obtain the sanction of his Honour, the Lieutenant Governor, for the publication, as often as convenient during this year, both in the Calcutta Gazette and Government Gazette, of the enclosed copy of an advertisement for the offer of a premium for an approved essay on the culture of cotton in India from foreign seed.

Office of a premium for Essay on Culture of Cotton from Foreign Seed.

Should this request be complied with, the council will be thankful if the printer be authorised to furnish a few slips, say 50 copies, for circulation in various parts of the country.

From J. D. Gordon, Esq., Junior Secretary to the Government of Bengal, to the Secretary to the Agricultural and Horticultural Society (No. 220, dated Lieutenant Governor's camp, Parishnauth, 9 May 1861).

I AM directed to acknowledge the receipt of your letter of the 20th ult., and in reply to state that the printer of the Calcutta Gazette has been directed to insert in that publication, as often as possible during the current year, the advertisement forwarded by you, offering a prize for an essay on the culture of cotton, and to furnish you with 50 copies of the advertisement on slips.

— No. 37. —

EXTRACT Bengal Revenue Consultations, June 1861.

From J. P. Lauglois, Esq., to Captain J. R. Pughe, Private Secretary to the Lieutenant Governor of Bengal (dated Akyab, 28 March 1861).

I HAVE been prompted by the liberal spirit of the Governor General's Minute of the 2d instant, on the subject of cotton, to make public, through the medium of our local newspaper, the result of my observations with regard to the possibility of promoting in this province the cultivation of this lucrative staple.

Culture of cotton in Arracan.

My opinion is based upon experience and the knowledge of this culture, and you will see by the inclosed diploma that I am not a stranger to botany and agriculture, having been for several years a corresponding member of the Royal Agrarian Academy of Turin.

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I have herewith the honour to hand you the copy of the paper for the perusal of the Lieutenant Governor, and I hope that my endeavours to forward this new branch of industry will meet with his approval.

Many natives of this place with whom I have conversed, are inclined to try the experiment of growing cotton, as they feel convinced that it would succeed in several of our districts, but the great drawback for them will be the difficulty of procuring good seeds in time for the next sowing season, unless they receive due assistance.

If it were the Lieutenant Governor's wish to inaugurate in this province the cultivation of cotton, I would beg leave to say, that I believe no better localities could perhaps be found in India than the valleys of the "Naaf." Although this district is at present neglected on account of the centralization of all the courts of justice and Government offices at Akyat, it is nevertheless the finest part of the territory of Arracan, and the most susceptible of acquiring a great commercial development, if placed under the local administration of a European Government officer. This arrangement would offer to the ryots a moral guarantee that their interest and property would thenceforth be duly protected, and, consequently, an inducement for redeeming the large tract of land at present uncultivated. Far from being an expensive measure, it would greatly increase the revenues of Arracan.

Trusting that the importance of the subject will be an excuse for my intrusion.

From *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal, to *T. P. Lauglois*, Esq., Akyat (No. 55, dated Lieutenant Governor's Camp, Parisnauth, 25 April 1861).

IN acknowledging the receipt of your letter of the 28th ultimo, communicating the result of your observations regarding the capability of the province of Arracan for the production of cotton, I am directed to convey to you the thanks of the Lieutenant Governor for the information you have furnished.

2. The original enclosure of your letter is herewith returned.

From *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal, to the Secretary to the Chamber of Commerce (No. 147, dated Lieutenant Governor's Camp, Parisnauth, 3 May 1861).

A LETTER has recently been received in this office from Mr. T. P. Lauglois, of Akyat, forwarding for the perusal of the Lieutenant Governor a communication addressed by him to the editor of the Arracan News, embodying the result of his observations regarding the capabilities of that province for the production of cotton. The information contained in Mr. Lauglois' letter, may, perhaps be of service to Mr. Paterson Saunders in the investigations about to be made by him on this subject, and I am accordingly directed to forward to you for transmission to that Government, the accompanying copy of the letter referred to.

From Major *G. Verner*, Commissioner of Arracan, to the Junior Secretary to the Government of Bengal (No. 37, dated 17 May 1861).

I HAVE the honour to acknowledge the receipt of your memorandum, No. 56, dated 25th ultimo, forwarding for report a letter in original from J. P. Lauglois, Esq., of Akyat, addressed to the private secretary to the Lieutenant Governor of Bengal, regarding the cultivation of cotton in this Province, and particularly in the valleys of the "Naaf;" and in reply, beg to state for the information of the Honourable the Lieutenant Governor, that as Captain Faithfull, Deputy Commissioner of Akyat was last month visiting the valley of the "Naaf," I forwarded Mr. Lauglois' letter to him, and requested he would give me all the information in his power; and I beg to annex hereunto, for the information of his Honour, a copy of Captain Faithfull's report, No. 10, dated 14th instant, from which it will be observed that cotton is grown on the hill slopes in Arracan, of an inferior quality,

quality, and of limited quantity by the hill people, but whether the "Naaf" portion of the district is better suited for the cultivation of cotton than other portions he could not say; still, as cotton does grow, and as a variety of good soils are available, there is no reason why an experiment conducted under skilled European superintendence should not succeed, and he recommends that if a trial is determined on, that, as suggested by Mr. Lauglois, it should be first made in the direction of the "Naaf."

2. As far as I have been able to obtain information regarding the cultivation and growth of cotton in this province, it appears it is cultivated by all the hill tribes on the slopes of the hills, but not in large quantities; in the plains the cultivation of it has been very limited. Captain Ripley, Deputy Commissioner of Ramree, has informed me that for years he has endeavoured to increase the cultivation and improve it by gifts of seed, but for some cause or other it failed, and the people get disheartened, though inclined to improve the cultivation. The staple of the hill cotton is generally short, hard, and strong, and difficult to separate from the seed. As cotton, however, is, I believe, indigenous to Arracan, no doubt the quality might be improved by introducing new descriptions, and by supplying those who are anxious to cultivate the plant with good and fresh seed. The quantity produced might also be increased by allowing those who wish to cultivate cotton to obtain waste or jungle lands rent free for the purpose, for a number of years, or till the cultivation of cotton shall have so much increased, as to make it worth while to demand rent, or obtain revenue by imposing an export duty on it.

3. I know of no other ways for improving the quality and increasing the quantity of cotton in this province than, as stated above, by supplying the people with good seed, and by letting them have waste lands rent-free to cultivate it on. With regard to the cultivation being placed under the local administration of an European Government officer, I beg to observe, that, though by so doing, the cultivation might be pushed on, still the doing so would not be altogether in accordance with the ruling of his Excellency the Governor General of India in Council contained in a Resolution, dated 28th February last, a copy of which was forwarded to me for report, together with a copy of letter, No. 256 A, dated 6th March last, from the Under Secretary to the Government of Bengal, it being laid down in the Resolution, that all attempts to stimulate cultivation or labour, by any exertion of Government authority, directly or indirectly, are out of the question.

4. Should his Honour be able to cause a considerable supply of different descriptions of cotton seed to be sent down to this province, I have no doubt but that the Deputy Commissioners of districts will do their utmost to distribute it to the best advantage; and should his Honour see no objections to waste lands cultivated with cotton only, being rent-free, I shall feel obliged by your conveying to me his sanction of the measure, in order that I may cause it to be made generally known as soon as possible to the inhabitants of the province.

5. As requested, I beg to return herewith the original document received with your memorandum.

From Captain *G. Faithful*, Deputy Commissioner, First Class, to Major *G. Verner*, Commissioner of Arracan, Akyab (No. 10, dated 14 May 1861).

I HAVE the honour to acknowledge the receipt of your letter, No. 155, dated the 10th instant, forwarding enclosed letter from Mr. Lauglois of Akyab, to the Private Secretary to the Lieutenant Governor of Bengal, regarding the cultivation of cotton in this province, forwarded to you for report, on which subject I am requested to furnish you with all the information I am able to give.

2. Cotton is grown on the hill slopes here, of an inferior quality and limited quantity, by the hill people. This fact of itself pronounces in favour of the capability of Arracan for growing cotton.

3. I have no practical acquaintance with cotton cultivation, and therefore cannot say whether the "Naaf" portion of the district is best suited for it or not.

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4. Still, from the fact stated in the above 2d paragraph, aided by the variety of soils to be found here, thin sands, rich loam, fat loam, &c., and no great dissimilarity of climate to, for instance, the Soonderbunds where cotton is, or can, it is said, be reared, good grounds exist for anticipating success to a cotton-growing experiment, conducted under skilled European superintendence.

5. The Naaf River forms a good outlet for produce, and labour is not so scarce there as elsewhere; and, moreover, it abuts on the Chittagong district, whence we draw our chief labour supply, so that, as suggested by Mr. Lauglois, I would recommend a trial, if determined on, being first made in this direction.

— No. 38. —

EXTRACT—Bengal Revenue Consultations, June 1861.

From *C. F. Montresor*, Esq., Officiating Commissioner of the Nuddea Division, to the Secretary to the Government of Bengal (No. 93, dated 1 June 1861).

Trial of New Orleans cotton seed in the Soonderbunds.

I HAVE the honour to acknowledge the receipt of your letter, No. 72, dated 26th ultimo; and in reply, to state for the information of Government on the authority of the Commissioner in the Soonderbunds, that the New Orleans cotton seed was tried in the Soonderbunds of the 24 Pergunnahs, Jessore and Buckerunge, generally on loamy soil, and was sown during the rains. In the Soonderbunds of Backergunge only it had not a fair trial. Mr. Reily states that the grantee, to whom the seed was given, was unfortunately not on his grant for several months, until it was too late in the season to sow the seed, and it is uncertain whether the seed has a fair trial or not.

2. Mr. Reily further says that, from inquiries made by him, it appears that it is only the South Sea Island cotton seed that thrives in the Soonderbunds.

From *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal, to *Paterson Saunders*, Esq., Commissioner to report on the Cultivation of Cotton (No. 299 P., dated Camp Parisnath, 13 June 1861).

Growth of cotton in Chittagong.

THE Lieutenant Governor desires me to forward to you the accompanying copy of a letter, No. 93, dated the 1st instant, from the officiating Commissioner of Nuddea, reporting the result of a trial of New Orleans cotton seed recently made in his division.

— No. 39. —

EXTRACT—Bengal Revenue Consultations, August 1861.

From *J. B. Hollingsworth*, Esq., Calcutta, to *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal (dated 25 July 1861).

Growth of cotton in Chittagong.

My attention having been directed to your letter from Camp Parisnath, of 17th ultimo, published in the Englishman, regarding the growth of cotton at Chittagong, and the report of the Commissioner there, I beg most respectfully to request you will favour me with any information as to the encouragement the Government would give to the cultivators of cotton on those hills.

Being a partner of the firm of Hollingsworth, Mach & Co., of Chittagong, merchants, recently established there, we have an anxious desire to cultivate there, and have received a report prepared by the magistrate at Chittagong. Your report and that of the Secretary's reply has encouraged us to hope the Government will do something to enable us fully to carry on its cultivation.

Mr.

Mr. V. H. Schalch, the late Commissioner, and myself, have spoken together on the subject, and we feel assured of the success in the district of Cassalong, near Chittagong.

May I beg you will give this application your consideration and inquiry, and kindly inform me of the nature of the Government intentions as to grants of land there.

(No. 18.)

From *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal, to *J. B. Hollingsworth*, Esq., Calcutta (No. 820 A, dated 5 August 1861).

I AM directed to acknowledge the receipt of your letter, dated the 25th ultimo, requesting to be informed of the nature of the Government intentions as to grants of land in the Chittagong district for the cultivation of cotton.

2. In reply, I am desired to inform you that you should apply for a grant of waste land to the district officers. Grants of such land, being Government property, are given under the rules in force.

3. These rules, I am to observe, have been for some time under the consideration of the Government of India, with a view to a general revision, but if they are favourably revised, you would come within any benefit allowed by the revised rules, beyond those allowed by the existing rules, should you take a grant now under the existing rules.

— No. 40. —

EXTRACT India Revenue Consultations, dated August 1861.

From Sir *George Couper*, Bart. and c. b., Secretary to the Government of the North Western Provinces, to *W. Grey*, Esq., Secretary to the Government of India (No. 879 A, dated Nynee Tal, 10 August 1861).

IN continuation of the letter from this office, No. 1003 A, dated the 30th August 1860, I am directed to forward, for the information of his Excellency the Viceroy in Council, the accompanying copy of a letter* from the Collector of Banda, from which it will be seen that the experimental cultivation of cotton from the New Orleans cotton seed supplied to that officer has proved a failure.

Failure of New Orleans cotton seed.

* No. 816, dated 25th ultimo.

2. Mr. Dashwood will be requested to send direct to you specimens of the cotton produced in his own and the public gardens from the seed which he obtained from Calcutta.

From *H. W. Dashwood*, Esq., Collector of Banda, to Sir *George Couper*, Bart. and c. b., Secretary to the Government of the North Western Provinces (No. 816, dated 25 July 1861).

WITH advertence to the correspondence, as per margin,† in the Revenue Department, relative to the barrel of New Orleans cotton seed supplied for distribution by the Manchester Cotton Supply Association, I regret to have to report that the experiment has proved a failure. I distributed the seed to eight or ten landholders, possessing estates in various parts of the district, and they one and all report that the seed has failed to germinate. I attribute this solely to the seed being too old, for some seed of this very sort, which I got up from Calcutta a month ago, and sowed in my own and the public garden, has germinated very well. Had the seed arrived in time for last year's sowing, I have no doubt whatever that the experiment would have succeeded.

† Government Order, No. 2607 A, dated 13 June 1860, with copy of letter, No. 1129, dated 28 May 1860, from Under Secretary to Government of India to Secretary to Government, North Western Provinces.

Government Order, No. 610, dated 2 August 1860.

Collector to Secretary to Government of North Western Provinces, No. 1697, dated 13 August 1860.

Government Order, No. 1104 A, dated 30 August 1860.

I.
India.

succeeded. I do not think the seed has been affected by damp, for it was kept in tin inside the Government Treasury, which was as dry a place as I could find.

2. Besides distributing the seed amongst the zemindars, I sowed some in my own and the public garden, with a little better success; that is to say, out of a hundred seeds perhaps ten may have come up; and even this result, which is practically a failure, is probably owing to the soil of these two gardens being of better quality, and manured. If the Lieutenant Governor should wish it, I will send for his inspection some of the produce of my own and the public garden.

From *W. Grey*, Esq., Secretary to the Government of India, to *Sir George Couper*, Bart. and c. B., Secretary to the Government of the North Western Provinces (No. 1739, dated 31 August 1861).

I AM directed to acknowledge the receipt of your letter, No. 879 A, dated the 10th instant, enclosing copy of a letter from the Collector of Banda, reporting that the experimental cultivation of cotton from the New Orleans cotton seed, supplied to him last year, has proved a failure. I am desired to suggest, as regards the seed, which is stated to have germinated in Mr. Dashwood's own garden and in the public garden at Banda, that care may be taken to preserve the acclimated seed obtained from this cultivation.

2. The specimens of cotton which Mr. Dashwood has been instructed to send to Calcutta will, on their receipt, be submitted for the inspection of the Chamber of Commerce.

From *W. Grey*, Esq., Secretary to the Government of India, to *H. W. J. Wood*, Esq., Secretary to the Bengal Chamber of Commerce (No. 1622, dated 31 August 1861).

WITH reference to para. 2 of the letter from this department, No. 1004, dated the 28th May 1860, I am directed to forward, for the information of the Chamber of Commerce, the accompanying copy of a communication* from the Government of the North Western Provinces, with a letter from the Collector of Banda, reporting the failure of the experimental cultivation of cotton from the New Orleans cotton seed, which was received from the Chamber last year. The specimens of cotton grown from the seed obtained by Mr. Dashwood this year will, on their receipt, be forwarded for the inspection of the Chamber.

* No. 879 A, dated
10 August.

— No. 41. —

EXTRACT North Western Provinces, Revenue Proceedings,
21 September 1861.

From Secretary to the Government of India, Home Department, to Secretary to Government, North Western Provinces (No. 1739, dated Fort William, 31 August 1861).

Sir,

Failure in the
cultivation of New
Orleans cotton
seed in the North
Western Pro-
vinces.

I AM directed to acknowledge the receipt of your letter, No. 879 A, dated the 10th instant, enclosing copy of a letter from the Collector of Banda, reporting that the experimental cultivation of cotton from the New Orleans cotton seed supplied to him last year has proved a failure. I am desired to suggest, as regards the seed which is stated to have germinated in Mr. Dashwood's own garden, and in the public garden at Banda, that care may be taken to preserve the acclimated seed obtained from this cultivation.

2. The specimens of cotton which Mr. Dashwood has been instructed to send to Calcutta will, on their receipt, be submitted for the inspection of the Chamber of Commerce.

I have, &c.
W. Grey.

— No. 42. —

I.
India.

EXTRACT India Revenue Consultations, dated September 1861.

Memo.—READ a letter, dated 23d July, from Captain Haughton, Superintendent of Port Blair, to the address of Messrs. Mosley and Hurst, Honorary Secretaries to the Manchester Cotton Supply Association, on the subject of experimental cotton cultivation in the Andamans, forwarded *demi-officially* by the writer to the Secretary in this department.

Experimental
cotton cultivation
in the Andamans.This letter is not
recorded in the
Consultations.

From *W. Grey*, Esq., Secretary to the Government of India, to Messrs. *Mosley* and *Hurst*, Honorary Secretaries to the Manchester Cotton Supply Association (No. 1714, dated 13 September 1861).

IN forwarding to you the accompanying letter, to your address, from Captain Haughton, the Superintendent of Port Blair, I am directed to inform you that the Governor General in Council entirely approves of the offer which it conveys of assistance in any experiment for cultivating cotton in the Andamans, which, as agents of the Manchester Cotton Supply Association, you may consider it desirable to set on foot. I am at the same time instructed to point out that Captain Haughton's offer of 300 convicts must be accepted; with the understanding that if it should hereafter appear that this number is larger than can be spared, with reference to the general demands of the settlement, the Government will hold itself free to reduce the number; and further, that no pledge can be given that the same arrangement will be continued if the undertaking should proceed beyond the limits of an experiment.

From Messrs. *Mosley* and *Hurst*, Honorary Agents, Cotton Supply Association, to *W. Grey*, Esq., Secretary to the Government of India, dated 17 September 1861.

WE have the honour to acknowledge receipt of your letter, dated 13th instant, accompanying one, to our address, from Captain Haughton, Superintendent at Port Blair, relating to the cultivation of cotton in the Andamans.

We beg you will convey to His Excellency the Governor General in Council our grateful thanks for his having confirmed Captain Haughton's liberal offers of assistance in any experiments which may be made for extending the culture of cotton in that direction. Due notice is taken of the conditions upon which the services of convicts would have to be accepted.

From *J. H. Rivett Carnac*, Esq., Officiating Under Secretary to the Government of India, to Captain *J. C. Haughton*, Superintendent of Port Blair (No. 1926, dated 21 September 1861).

I AM directed by the Governor General in Council, with reference to your letter to them, dated 23d July, to forward for your information the accompanying copy of a correspondence* with the honorary agents of the Manchester Cotton Supply Association, relative to the cultivation of cotton in the Andamans.

From Captain *J. C. Haughton*, Superintendent of Port Blair, to *W. Grey*, Esq., Secretary to the Government of India (No. 34, dated 31 July 1861).

IN reply to your letter, No. 862, of 29th April last (received on 20th instant), I have to request one barrel of cotton seed may be reserved for next year's sowing in this settlement. I find that the seed gathered last year has vegetated freely, and I am in hopes it will not deteriorate.

It

* To Messrs. Mosley and Hurst, No. 1714, dated 13 September.
From Messrs. Mosley and Hurst, dated 17 idem.

I.
India.

It may be interesting to the Manchester Cotton Supply Association to know that the plants grown last year, cotton from which was forwarded to you, have already thus early began to yield their produce.

From *J. F. Rivett Carnac*, Esq., Officiating Under Secretary to the Government of India, to Messrs. *Mosley and Hurst*, Honorary Agents, Cotton Supply Association, (No. 1778, dated 25 September 1861).

WITH reference to the secretary's letter to you, No. 835, dated 29th April, I am directed to forward for your information the accompanying copy of a letter, No. 34, dated 31st July, from the Superintendent of Port Blair, regarding the success of the cultivation of cotton in that island.

— No. 43. —

EXTRACT Bengal Revenue Consultations, December 1861.

From *H. L. Dampier*, Esq., for Officiating Secretary to the Board of Revenue, to the Secretary to the Government of Bengal (No. 762, dated 1 November 1861).

WITH reference to Government orders noted in the margin, I am directed by the Board of Revenue to forward the copy of a report submitted by the Officiating Commissioner of Chittagong, No. 214, dated 3d September last, respecting the Lieutenant Governor's proposal to establish Government cotton factories in the hill tracts of that district.

2. It will be observed that there are two facts in connexion with the cultivation of cotton in this district which have been brought to light by the investigations of the Commissioner in communication with the local authorities; the first is, that the production of cotton there is confined to the wild and hilly tracts of country which are some distance from the Sudder Station; the second, that the quantity of cotton grown in these hill tracts has decreased very considerably of late years, and that the exports of the uncleaned cotton passed through the Custom-house during 1861-62. amounted to only 200 maunds. If this return and the returns prepared by Mr. Bamber for the three preceding years, as quoted in paragraph 7 of the Commissioner's Report, approach at all to accuracy, the falling off in the cultivation and export of the article is very remarkable when compared with the results reported by Mr. Ricketts, who was Commissioner of the division in 1848, when the estimated crop of the district was put down at 75,000 maunds of uncleaned cotton.

3. The officiating Commissioner does not appear to entertain any sanguine expectations that the out-turn of the cotton crop will improve in the present year, or even for two or three succeeding years. The disturbed state of the country, and the liability to inroads from the uncivilized tribes of the border, may not improbably operate to discourage extended cultivation for a time; but there is reason to hope that the indolent habits of the people (which is adduced by Captain Macgrath as another reason for expecting small results from this neighbourhood) will in some measure give way to an increased demand for the cotton, which it appears European mercantile agents at Chittagong are already prepared to encourage if any prospects are held out of profitable returns.

4. It is proper to notice, however, that in the absence of a very much more extensive cultivation than at present exists, it is hopeless to expect that the cotton of this part of the country would secure any position in the English market, for the price of the article at Chittagong is maintained by the very limited produce. In the 8th paragraph Mr. Buckland treats of the price and quality of the product grown in the hill tracts, in regard to which I am desired to observe, that the Board are informed that the Rangoon cleaned cotton, which is of the same kind as that produced in Chittagong, was selling not long ago in the bazaar at Calcutta for 13 rupees per maund; and as the cotton produced in the hilly tracts of the Chittagong district, which is doubtless similar in quality, is worth, in the bazaar of Chittagong, 17 rupees per maund, there is, as far as they

Proposed establishment of Government cotton farms at Chittagong.

No. 703 A, dated 8 July 1861.
No. 704 A, dated 8 July 1861.
No. 750 A, dated 24 July 1861.

they are aware, no present inducement to send it to Calcutta. It is probable that the indigenous cotton has been chiefly required for local consumption, and very little for exportation; and it is evident that if the present price is maintained, which is equivalent to more than 5 *d.* per lb. at the place of production, the demand for it in England would only arise when the price of the article there has risen beyond anything that may at present be expected.

5. The method of cultivation which is described by Mr. Buckland, in the 11th paragraph of his letter, corroborates most completely the account given by Mr. P. Saunders, in his letter to your address, dated 12 July 1861. The Board fully concur with these gentlemen in the opinion that nothing but failure can come of such a system if left unaided to its own resources; and they agree therefore with the Commissioner in considering that an experimental garden or factory might with advantage be established in some carefully selected place in the hills, and that a qualified person should be sent to Chittagong before the next rains to superintend the planting of cotton seed. The instances mentioned by the officiating Commissioner serve to show, that if such an experiment is left in the hands of the uninitiated hillmen who now grow it, it is pretty sure to prove unsuccessful. It would be advisable that seed from other parts of India, where better cotton is grown, should be used, and experiments tried also with seed of American and Egyptian origin.

6. The capability of the soil for the production of serviceable cotton seems to be undoubted, and the Board have ascertained that the means of communication between the cotton producing tracts and the port of Chittagong are excellent. It appears that the officiating Commissioner will, after his contemplated tour, be in a position to point out eligible sites for the cultivation of cotton in the hill tracts of Chittagong. The first location, if a Government factory is finally determined on, would probably be on the Kurna-foolee river, or its tributary, the Cossalong. These rivers are navigable throughout the year for boats of three feet draught, and there are numerous minor streams flowing into them which would be available for the transport of cotton in boats of a smaller size.

7. I am desired to add, that the Kurna-foolee river flows close by the Sudder station, and forms the port of Chittagong, which can be entered by seagoing ships of a good size without danger or difficulty, except during a couple of months in the year.

8. A copy of Mr. Ricketts' report, to which reference has been made, accompanies this letter.

From *C. T. Buckland*, Esq., Officiating Commissioner of the Chittagong Division, to the Secretary to the Board of Revenue (No. 214, dated 3 September 1861).

I HAVE now the honour to submit the report called for in your letter, No. 104, dated 19th July, on the proposition made by the Lieutenant Governor of Bengal, to establish Government cotton factories in the hill tracts of Chittagong.

2. I have already informed the Board that on reaching Tipperah, and finding this subject awaiting my report, I consulted by letter the collector of Chittagong, and the superintendent of the hill tribes; and the substance of the answers given by those officers will be found hereafter. Since my arrival at Chittagong I have made such further inquiries as have been possible within such a limited time.

3. It must be borne in mind that my observations will apply solely to the cotton produced in the hill tracts of Chittagong. It may be said, practically for commercial purposes, there is no cotton grown in the plains at present, though many of the natives assert that it was from a superior sort called Nagalea, grown only in the plains, that the finest Dacca muslins were made; but that is now only a matter of history.

4. There is every reason to believe that the quantity of cotton grown in the Chittagong hill tracts has considerably diminished of late years, and that it is less than ever in the present year.

I.
India.

5. If the Board will refer to the letter, No. 403, addressed to them by Mr. Commissioner Ricketts on 26th July 1848, they will find that Mr. Ricketts, and the collector, Mr. Sconce, estimated the cotton crop grown in the hills at that time at 75,000 maunds of uncleaned, or 25,000 maunds of cleaned cotton, which shows a very unfavourable proportion of seed to cotton in weight. This uncleaned cotton was sold by the hillmen to the Bengalee traders at *Rs.* 2. 8. a maund; and the price of the cotton, when cleaned and exposed for sale at the marts in the plains, was from *Rs.* 9. 8. to 10 per maund.

6. I find a further report submitted by Mr. Commissioner Steer to the Board, in his No. 11 of 7th May 1858, in which it was stated that 40,000 acres cultivated in the hills yielded a cotton crop worth 1,80,000 rupees, which, at the prices current in 1848, would give 18,000 maunds of cleaned cotton. But Mr. Steer, in submitting this return, observed that much dependence could not be placed on it—an opinion in which I concur, on seeing the materials from which it was prepared.

Maunds.

1858-59	-	3,529
1859-60	-	13,233
1860-61	-	2,895
1861-62	-	200

7. From returns which Mr. Bamber, the collector of Customs, has prepared for me, it appears that the exports of uncleaned cotton cleared through the Custom-house on sloops bound chiefly to Naraingunge were as noted in the margin. It is not possible to say what quantity is taken away in the country boats, called balaams, but I am informed that cotton is too bulky a cargo for the balaams.

8. Mr. Ward, the collector and magistrate of Chittagong, in his report to Mr. Commissioner Schalch, expressed his apprehension that, this year at least, and probably for the next two or three years, a very vast decrease rather than increase must be looked for in the produce of cotton, as the unsettled state of the country, and the fear of Kookie incursions, has driven the peaceably disposed settlers from their homes, and prevented a large number of them from cutting and burning the jungle for the “jooms,” as the cultivated patches are called. Mr. Ward, in his present report to me, states that the goladars (or dealers) and others allege that there has been a great decrease in the cultivation of late years. They say that the produce of the district is only about 20,000 maunds of uncleaned cotton, though Mr. Ward holds this estimate to be too low. The present prices in the town of Chittagong are *Rs.* 6. 8. for uncleaned cotton, and 17 rupees for cleaned cotton, per maund. Mr. Ward has submitted to me some small samples of the cotton procurable at these prices, both cleaned and uncleaned. It is not worth while to send it to the Board, for it is identical with some Chittagong cotton that Mr. Blechynden, the secretary to the Agricultural and Horticultural Society, showed me in Calcutta, and which he valued at 3 *d.* a pound. It is clear, therefore, that this cotton is not of any use, commercially.

9. Captain Magrath, the late superintendent of the hill tracts, states, generally, that there is no cotton now procurable for the purpose of cleaning and screwing; and he adds that the whole of this season's crop, if collected, would not suffice to fill “a couple of ships”; he probably means Chittagong sloops, but he does not say so. He says that there are three reasons which will prevent any increase of cotton cultivation for some time, viz.: the disturbed state of the country; the lazy and indolent habits of the people; and, lastly, their doubts as to there being a demand for the amount that they can produce.

10. The above testimony all concurs to show that the production of hill cotton has decreased; but I think it is waste of time to do further than refer to the test of prices. It is shown that the uncleaned cotton is now selling for *Rs.* 6. 8. in the town of Chittagong, and cleaned cotton for 17 rupees a maund. Mr. Sconce gives *Rs.* 2. 8. per maund as the price of uncleaned cotton in the hills in 1848, and 10 rupees as the price of cleaned cotton in the town. Yet this cotton is only worth 3 *d.* a pound for English manufacturing purposes. I should not omit to state that the collector reports that a firm, under the name of Messrs. Hollingsworth and Mack, who have recently settled in business in Chittagong, intend to buy cotton for shipment to Calcutta, if they find it profitable, but as yet they have bought little or none; and Mr. Hollingsworth has expressed some disappointment at the small use of the quantity which could be got.

11. The next question is, whether an improved sort of cotton can be grown which will command a remunerative price. The mode in which cotton is now grown in the hills has often been described, but having often visited these jooms or clearings at Chittagong many years ago, and having within the last few weeks been in a "joom" in the hills of Independent Tipperah, I will venture to repeat it. A piece of jungle, which has not been touched for 10 or 12 years, is selected; the trees and bushes are cut down about two months before the rains begin, and when they are dry, they are burnt on the ground just before the rains. As soon as the rains begin, cotton, rice, melons, or pumpkins, and two or three other things are all sown together. The rice is the staple crop, and when the seed has come up, a casual observer might suppose that there was nothing but rice. The cotton produced under these circumstances has but a poor chance, and is a short-stapled rough sort, very adhesive to the seed, and therefore of small value.

12. I am not aware that any experiments have been made to try if this local cotton can be improved by cultivation for its own sake alone, *i.e.*, without admixture with rice and other vegetables. With regard to the attempts made to introduce improved seed into this district, I remember an experiment made in 1846 with New Orleans seed, in which we failed for two reasons—first, because we sowed too late in the season; second, because we did not burn the ground, so that our plants, as they came up, were attacked by a series of insects and blight, which eventually destroyed them.

13. Again, during the present year, there has been an unfortunate failure in an attempt to introduce the seed sent down by Government last year. The seed arrived too late for use in 1860, and was given out in March of this year, by which time it had all gone bad, so that not a plant has come up. This result has been particularly unfortunate, as Captain Magrath gave some of it to the hill tribes, and planted some of it himself at Kassalong; and instead of the usual poor crop produced by their own common seed, there was no crop at all for the people. The same result occurred in the gardens of several gentlemen in the station of Chittagong, who tried it.

14. There now remains the question whether, as a political measure for the conversion of the hill tribes to more civilized and peaceful habits, it is expedient for the Government to establish a factory for the purpose of buying, cleaning, and screwing cotton. Taking that proposal in its strict terms, and with reference to what has been stated above as to the amount of cotton now produced, it would be a failure, as there is scarcely any cotton to be bought, and the price is too high to be remunerative to Government. If, on the other hand, the proposal is varied, so as to include the improved cultivation of cotton in the hills, I think that, politically, it is desirable to establish such a factory. This variation is, I beg to observe, only an adoption of the suggestion* contained in paragraph 10 of Mr. Paterson Saunders' letter, dated 12th July, to your address. But it seems to me to be more than ever necessary to teach the hill people an improved mode of cultivation at the expense of Government, in consequence of the discouragement which they received this year from using the seed supposed to be of a superior sort, and given to them by an officer of Government, but which turned out to be utterly worthless.

15. It appears to be the general opinion that the production of cotton, in the present and past years, has been greatly diminished in consequence of the disturbed state of the hills. It is of the utmost importance to put an end to these disturbances; and if the Government are satisfied that it is not necessary to send any further retributive expeditions into the hills, I am of opinion that there can be no more certain mode of civilizing and tranquillizing the hill tribes than by the diffusion of Government money among them, under the colour of introducing an improved cultivation of cotton by Government agency. Without the example of Government, I fear that there is no hope of any improvement in the cultivation of the indigenous seed, or of the introduction of any foreign seed.

* I would suggest that a cotton plantation of 100 or 200 acres be attached to the Government factory, that it be planted with Egyptian or New Orleans seed, and cultivated after the most approved method.

I.
India.

seed. On the other hand, the cotton as now produced is of no commercial value, and it is not probable that the hillmen will be induced to cultivate it separately, *i.e.*, without an admixture of rice, &c., unless the Government leads the way, and shows that the risk is a safe one.

16. I presume that I need not attempt to say anything at present on the details of the factory to be established by Government. I hope to go up to Kassalong with Captain Graham in a few days, as soon as the repairs of the gunboat are completed, and I can then see about the site. I believe that by well-directed efforts this cold weather, things may be brought into train for the cultivation of cotton at the commencement of next rains, before which nothing effectual can be done, as it is too late now to prepare any ground this year. There will, therefore, also be time for the Government to send Mr. Paterson Saunders, or any other experienced person, to judge for himself if they think it necessary.

From *H. Ricketts*, Esq., Commissioner of the Chittagong Division, to the Secretary to the Sudder Board of Revenue, Lower Provinces, (No. 403, dated 26 July 1848.)

I HAVE the honour to forward the information called for by your circular letter of the 21st February, No. 4 :—

	CHITTAGONG.	BULLOOAH.	TIPPERAH.
1st Question.—What is the price of cotton, freed from seed, at the principal mart or marts in your district?	<i>Rs.</i> 9. 8. to <i>Rs.</i> 10 per maund of 80 tolahs.	Cotton is not sold in this district.	<i>Rs.</i> 8 to 10 per maund, at 82 tolahs to the seer.
2d Question.—At what price does the ryot sell his cotton, cleaned or uncleaned, and with or without advance?	It is grown only in the hill country, on the frontier. The ryots sell their produce uncleaned, at <i>Rs.</i> 2. 8. per maund.	Hardly any is raised. The ryot sells his produce, uncleaned, at <i>Rs.</i> 3, if he receives advances, at <i>Rs.</i> 2. 8. per maund.	<i>Rs.</i> 1. 8. to 2. 8. of hill cotton; none grown for sale in the plains.
3d Question.—What is the expense of cleaning cotton by the churka or foot-roller, or by any other method that may be in use?	Cotton is cleaned by the churka, by women. It is not easy to state the exact cost. A maund of clean cotton is produced from 3 maunds of uncleaned; 3 maunds of uncleaned cost <i>Rs.</i> 7. 8. a maund; of cleaned, <i>Rs.</i> 9. 8. The difference, <i>Rs.</i> 2, covers the expense of cleaning, and the profit of the middleman.	It is cleaned by the churka at 1 rupee per maund.	No answer.
4th Question.—What are the expenses of conveying cotton to the nearest coast for shipment?	Cotton is conveyed from Chittagong to Calcutta at 5 ans. per maund; to Naraingunge, the great mart near Dacca, for 4 ans. per maund.	From Noacolly to Calcutta at <i>Rs.</i> 12 per 100 maunds, or 1 anna and 11 pics per maund.	No answer.
5th Question.—What is the average produce of cotton per beegah or acre?	About 34 seers per Bengal beegah (<i>i.e.</i> 14,400 sq. ft.), but it is grown in the hills only, and there intermixed with other things.	About 20 seers per Bengal beegah.	No answer.
6th Question.—What is the quantity of land under cultivation with cotton, and to what extent is it probable that the cultivation could be carried in the event of an increased demand?	Unknown. It is grown in the hills only. Formerly a good deal was grown in the plains, now entirely discontinued. The crop grown in the hills may be estimated at 75,000 maunds of seed cotton, or 25,000 maunds of cleaned cotton.	There is hardly any cotton cultivated in the district. The lands are, for the most part, low and salt.	Very little produced, and that not for sale. The letter of the Tipperah Collector is very incomplete; but there being little, if any, cotton grown, it did not seem worth while to call for further returns.

2. The Collector's letters are submitted, Mr. Sconce's as far as para. 11. In the remainder of his letter he has introduced a discussion respecting the assessment of the hill country, which will be taken up separately.

3. The 25,000 maunds of cleaned cotton are produced in the hills of the Chittagong district, and there is a very extensive tract of wooded country throughout, which if cleared, cotton might be grown; there is no reasonable prospect of considerably increasing the cultivation.

4. This hill cotton is grown by thinly scattered wandering tribes, who having burned the jungle in favourable spots, sow, in holes dug with a spade, cotton, rice, melons, &c. After two or three years, the soil being exhausted, they migrate to another place; of course the land would continue productive if wood ashes and other suitable manure were supplied; but they prefer a change. They keep no cattle of late years; the cultivation is supposed to have decreased considerably, many families having gone to the hills of Arracan. I cannot see the remotest prospect of increasing this 25,000 maunds to 50,000 maunds by any conceivable measures; I will not, therefore, speculate on the possible advantages of fostering the hill cultivation.

5. As reported by Mr. Sconce, a good deal of cotton was in former times grown in the plains of Chittagong, and there are many thousands of acres in Tipperah fit for cotton; but without the price procurable shall greatly increase, the introduction of cotton cultivation in these parts is quite hopeless.

6. A beegah of cotton is estimated by Mr. Sconce to produce two maunds of uncleaned cotton, which will sell for five rupees. The cultivation is more expensive than rice, the produce more precarious, the returns about equal; while chillies, hemp, kessaree, mustard-seed, sugar-cane, all are more remunerating than cotton at existing prices: chillies and hemp yield to the cultivator 100 per cent. more than cotton when selling, uncleaned, at Rs. 2. 8. per maund.

Six maunds per acre, or two maunds of clean cotton, or 160 lbs. I believe this to be much more than the average. Mr. Sconce also is more inclined to accept 1½ maunds as the average; but our information is very imperfect.

7. Under these circumstances no such measures as reduction of assessment can avail anything. Were the whole land revenue of Chittagong abandoned, I do not believe it would increase the cotton cultivation by an acre; the ryots would still grow their red pepper and hemp.

8. The introduction of a plant which, in an Indian soil, will produce, say, even 300 lbs. per acre of clean cotton, or such decrease in the expense of cleaning, packing, and transport as shall allow of a considerably increased payment to the producer, or a great reduction in the value of other produce, may bring back the plant to the open country and good soils of Tipperah and Chittagong; but with a market rate of Rs. 2. 8. per maund of uncleaned cotton, and a produce of 1½ maunds per beegah, other sorts of produce will not be abandoned for the sake of cotton in this part of Bengal.

From *E. H. Lushington*, Esq., Secretary to the Government of Bengal, to the Secretary to the Government of India, Home Department, (No. 1245 A., dated 10 December 1861.)

In continuation of the Officiating Under Secretary's endorsement, No. 1127 A., dated 7th ultimo, I am directed to forward, for the perusal of his Excellency the Governor General in Council, the accompanying copy of a letter* from the Board of Revenue, submitting a report from the Officiating Commissioner of Chittagong, relative the Lieutenant Governor's proposal to establish Government cotton factories in the hill tracts of that district.

* No. 762, dated 1st ult. (1 enclosure.)

2. The Lieutenant Governor desires me to observe, that these papers show the remarkable fact of a great decrease of the cultivation of cotton in the Chittagong hills, or at least of its transmission from those hills to the port and market, of late years, though the price obtainable for it has largely increased. Doubtless

I.
India.

the prices of all agricultural produce have largely increased at Chittagong as elsewhere within the same period ; but the present price of cotton reported, viz. 17 rupees, and that reported by Mr. Ricketts in 1848, 10 rupees a maund for cleaned cotton, amounts to 70 per cent., and it is not probable that prices generally at Chittagong have increased more than that.

3. The method of cultivation in these hills, described by Mr. Buckland, sufficiently explains the inferiority of the cotton produced. There is no reason to doubt that good cultivation would greatly improve the quality of the Chittagong hill cotton, as Mr. P. Saunders argues in his interesting letter of the 12th July last, a copy of which is herewith submitted. Such a style of cultivation as Mr. Buckland describes very plainly requires to be improved by external agency. The remarks of the Government of India on this head, in reply to the agents of the Manchester Cotton Supply Association (paragraph 8 of letter, dated 2d July 1861), are doubtless applicable to the great cotton districts of India ; but the remarks made in Mr. P. Saunders' letters are even more certainly applicable to the Chittagong hills.

4. In attempting to introduce improved cultivation, it would no doubt be desirable to try foreign seeds of several good varieties experimentally, and to be guided by the results of the several experiments in future practice. But the Lieutenant Governor is of opinion, that caution and moderation should be exercised in regard to foreign varieties of cotton, and that it should be impressed upon all concerned in any attempt to improve the system of cultivation, that until they can found upon actual experiment successfully conducted, their reliance should be on the most careful possible cultivation of the best sort of cotton already established as a good local crop. When a novelty is avowedly tried on a small scale, as a mere experiment, no harm is done when it fails, as it is always likely to do. But harm is done, and the spirit of improvement is checked, when cultivators are induced to rely absolutely on some novelty, which fails, as in the case of the failure of the cotton seed, mentioned by the Commissioner of Chittagong, which is but one of a thousand similar failures. The Lieutenant Governor makes this remark, because he thinks there is a general tendency, amongst persons interested in improving the cultivation of cotton in India, to think that all depends on introducing some foreign variety of seed which produces the best quality of cotton, and is highly approved in some other part of the world. The practical commercial object is not to produce the best possible quality of cotton, for such cotton, if produced, may not be a good crop to grow. The object is to produce the most profitable crop of cotton possible, and it is only as a means to that end that improvement of quality can be permanent, when attained.

5. The Lieutenant Governor does not think that Mr. Buckland's objection to the original scheme of establishing factories for buying, cleaning, and screwing cotton in the Chittagong hills, founded on the small quantity of cotton *now* produced in these hills, is very valid, because the very object of the scheme is to encourage and increase the growth of cotton there, and there is not the least doubt of the natural capacity of the hills for a vastly increased growth. Neither does he think that the high price of cotton in the Chittagong bazaar would necessarily make the experiment too unremunerative, because it is not essential to prepare the cotton for the English market. An increased production must release for export a somewhat proportionate quantity of exportable cotton, even if it cannot be exported itself.

6. But the Lieutenant Governor thinks that the improvement suggested by Mr. P. Saunders, of combining with the factory a small model plantation of cotton, of which both the Commissioner and the Board fully approve, extremely desirable for all the reasons assigned, and begs strongly to support that suggestion.

7. The Lieutenant Governor is quite sensible that private enterprise would be the best means by which the experiment he has recommended could be tried. But practically, in this instance, private enterprise is out of the question ; and to postpone the attempt till it is made by private enterprise, would be but one way of saying that the attempt is not to be made. Not only will no private person make the experiment, but no private person or company in the present state

state of things could be, with fairness, encouraged to make the attempt. There will be no immediate profit; and the political considerations which make such a project of the highest promise to the State, are nothing to any particular individual in a commercial point of view.

8. The Lieutenant Governor therefore recommends the scheme, with the improvement suggested by Mr. P. Saunders, and approved by the Commissioner and the Board. If the Bengal Government is authorised to undertake it, he is of opinion that it will not have justice done it unless a competent person is selected expressly to conduct it.

9. The latest news of the intentions of the hill tribes is very favourable. Rutton Paea, having comprehended the lesson taught by the penetration into the recesses of the hills of the expeditionary force of last year, and two other chiefs, have made submission, and negotiations with a more distant tribe are in progress. The time for commencing a civilizing experiment, such as the Lieutenant Governor proposes, is, therefore, to all appearances, propitious.

From *H. Bell*, Esq., Under Secretary to the Government of Bengal, to the Secretary to the Government of India, Home Department (No. 1277 A., dated 20 December 1861).

WITH reference to Under Secretary Mr. Monteath's Endorsement, No. 3504, dated the 29th ultimo, forwarding extract from a despatch from the Secretary of State on the subject of the cultivation of cotton in the hill districts of Chittagong, I am directed to refer to the final recommendation of the Lieutenant Governor, as reported in the letter from this office, No. 1245 A, dated the 10th instant.

— 44. —

EXTRACT, Bengal Revenue Consultations, December 1861.

From *H. L. Dampier*, Esq., Secretary to the Board of Revenue (No. 893, dated 18 December 1861).

COPY of this letter and the Collector's report, together with the samples of cotton seed forwarded to the Secretary to the Government of Bengal, in continuation of this office docket, No. 713, dated 7th October last. Apparently the district of Behar is a good field for the growth of New Orleans cotton.

Growth of New Orleans cotton in Behar.

From *H. D. H. Fergusson*, Esq., Commissioner of the Patna Division, to the Secretary to the Board of Revenue (No. 41, Ct., dated 23 November 1861).

I HAVE the honour to forward, in original, a letter, No. 193, dated 19th inst., from the officiating collector of Patna, on the subject of cotton cultivation.

2. Mr. Lautour relates the result of actual experiment made by himself in the Gyah district.

3. The samples alluded to in the 13th paragraph of Mr. Lautour's letter are enclosed.

I.
India.

From *E. F. Lautour*, Esq., Officiating Collector of Patna, to *H. D. H. Fergusson*, Esq., Commissioner of Revenue (No. 193, dated 19 November 1861).

I OBSERVE in the supplement "Government Gazette," dated the 16th of November, at page 604, that Mr. Furrell has sent in a report with reference to the cultivation of cotton at Gyah.

2. I quite agree with him on one point, viz.: that the seed distributed by the collector in 1860 was bad. I tried it, and found it would not germinate. I obtained some New Orleans cotton from a friend who was supplied with it by Messrs. Atkinson & Co. I sent the cotton to Calcutta, the produce of this seed, and it was valued at 5 *d.* to 6 *d.* per lb. The season was against the crop, as we had only half the usual fall of rain. I believe the soil of Behar to be well adapted for the growth of cotton, otherwise it would not have flourished so well in my garden, or in that of my neighbour (Mr. Hollings).

3. The Manchester trade has for many years gradually shut out the weavers from the market, who have either emigrated, or turned their labour to more profitable employment as agriculturists.

4. As the district of Behar has increased in prosperity and population, the cultivation of cereals has largely increased, and waste lands have been brought under cultivation; but the cultivation of cotton has been gradually neglected by the ryots, the value of cereals being greater in the market than cotton. Cotton is cultivated along with other crops, but its yield is insignificant. The seed is used to feed cattle, and is to be bought in the bazaar. The cultivation of country cotton might be improved; and I have no doubt the produce would be finer and more valuable in the market.

5. The proper time to sow New Orleans cotton seed is the end of May, or immediately after the first fall of rain. It should not be sown later than the end of July. It has then the benefit of the rainy season; and if we have the usual fall of rain, the moisture is retained in the ground until the end of February or beginning of March, and by that time the first and second pickings are over. The cotton picked in March and April is coarse, bad coloured, and not fit for the English market. I therefore, from experience in its cultivation, disagree with Mr. Furrell as to the necessity of constructing reservoirs and other means of irrigation, as I have found New Orleans cotton not dependent on irrigation.

6. I tried the acclimated New Orleans seed this year, and sowed it in July as an experiment. The plant thrived well, although the rainy monsoon was excessive; I commenced gathering in September; but leaving Gyah, was unable to secure the entire crop. I only gathered a few bolls, which were not perfect, owing to the excessive rain which fell in September.

7. Cotton prefers shade from the fierce sun of July, August, and September, and should be protected by sowing Indian corn in every alternate row.

8. I am of opinion that New Orleans cotton may be grown in any quantity in the Gyah District; and that its cultivation will be profitable to the ryot; coming to that conclusion from experiments made by me on the poorest soil selected purposely. But the crop depends entirely on sowing the seed in June and July, and the seed should on no account be sown later than July, otherwise the plants become stunted, and the crop is not worth picking that season. It is a fair crop the second season, but nothing particular, and the produce is coarse, dirty, and not fit for the English market.

9. It is quite a fallacy to suppose much labour is required in cultivating this crop. The lands should be kept clean and free from weeds. It requires no more labour than that used in growing cereals, and not one quarter the labour used in growing the poppy.

10. Sea-Island cotton is perfectly useless; it grows into a fine shrub, but the bolls produce no cotton.

11. Cotton is largely imported into the Gyah District from Mirzapore by water to Patna, and thence across country on pack-bullocks and country carts. It is also sent from Mirzapore down the Grand Trunk road on country carts.

12. The

12. The ryots of Behar are indifferent to cultivate New Orleans cotton, as they do not know its value. In fact the cultivation is new to them, and they are prejudiced against it on that account. But that the cultivation of New Orleans cotton can be profitably cultivated, I have no doubt, coming to that conclusion from certain experiments made by me in 1860 and 1861.

13. I have the honour now to submit for the inspection of the Board of Revenue, two samples of cotton grown by me in Gyah in 1860 and 1861.

14. First is that grown from imported New Orleans seed, and gathered in March and April. The first pickings were sent by me to Calcutta, and were favourably reported on by Mr. Stewart, of Gillanders, Arbuthnot & Co., grown in 1860.

15. Second sample is cotton picked in September, grown from acclimated cotton seed sown in July 1861.

— 45. —

REVENUE DESPATCH to the Government of India, No. 8, dated 8 May 1862.

I FORWARD herewith, for Your Excellency's information, copy of a Despatch from Her Majesty's Consul at Charleston, to the Right Honourable the Secretary of State for Foreign Affairs, respecting the prospects of the cotton crop in the Southern States of America during the present year. Dated 19 March 1862.

Enclosure in No. 45.

From *Robert Bunch*, Esq., to the Earl *Russell* (No. 49, dated Charleston, 19 March 1862).

THE deranged condition of postal and other communication between the various States and districts of the so-called Southern Confederacy renders it difficult to speak with entire certainty on a subject of considerable interest, viz., the prospects of the cotton crop of this year, or rather as to whether there will be any crop at all.

Of the districts in my own more immediate neighbourhood I can indeed say confidently that the production of cotton will be next to nothing, unless some great change in political affairs shall occur within the next two months. This does not appear probable. The planters, who have not yet felt the effects of the invasion, are employing their hands in sowing corn and other cereals, of which enormous quantities will be required now that the grain market of the North-West is closed.

The "Sea Islands" may be said to be entirely in the possession of the United States. Whether those lands are being prepared for crops under northern auspices I am unable to say, but it is certain that at the best the product will be small. The negroes are too thoroughly disorganized, and the whole system of labour too much changed to render immediate success possible.

In the South-Western States and the Valley of the Mississippi the operations of war, of which they are now the theatre, must preclude any but the most haphazard attention to agriculture, and, even in districts which may have been up to now comparatively quiet, I feel assured that but little cotton will be planted. Corn and grain will monopolise the land.

I have therefore no hesitation in avowing my belief that Europe need look for but little cotton, the growth of this year. Even were it possible that the restrictions on its shipment could be at once removed by the cessation of the blockade, the demands upon the railroads for military services, the conversion of river steamers into vessels of war, the destruction of canals, bridges, and roads must operate adversely for a considerable period upon the transportation of the staple from the interior to the coast. It may be confidently predicted that no competition on the part of the South need, for the present, be feared by other cotton-producing countries.

I.
India.

— No. 46. —

Home Department.—Revenue.—No. 19, of 1861.

To the Right Honourable Sir *Charles Wood*, Bart., G. C. B., Secretary of State for India.

Sir,

IN continuation of the 2nd paragraph of our letter No. 11, dated the 6th of July, we have the honour to transmit for your information copy of a further correspondence with Messrs. Mosley & Hurst, agents of the Manchester Cotton Supply Association, on the subject of promoting the supply of cotton from India to England.

From Messrs. Mosley & Hurst, dated 27 July 1861.

Letter from Mr. S. O. Sutton, Interim Secretary of the Cotton Supply Association, to Messrs. Mosley & Hurst, dated Manchester, 3 September 1861.

To Messrs. Mosley & Hurst, dated 9 December, and Enclosure.

We have, &c.

Canning.

H. B. E. Frere.

Cecil Beadon.

R. Napier.

S. Laing.

W. Ritchie.

Fort William,
9th December 1861.

Enclosure 1, in No. 46.

From Messrs. *Mosley & Hurst*, Honorary Agents, Cotton Supply Association, to *W. Grey*, Esq., Secretary to the Government of India; dated 27 July 1861.

WE have the honour to acknowledge receipt of your letter of the 2nd July, communicating to us the opinion of his Excellency the Governor General in Council on the views expressed by G. R. Haywood, Esq., the Secretary of this Association, in a letter dated the 13th May last, addressed to us, which was submitted as directed for his Excellency's information.

2. While gratefully acknowledging the prompt and efficient assistance which has been granted to us by the Government of India on the points referred to in paragraphs 2, 3, 4, and 11 of your letter under reply, and tendering our respectful and cordial thanks for the same, we are still constrained to differ so materially from some of the positions taken in your communication that we trust we may be allowed to express our views thereupon. We shall do so we hope with that deferential freedom which is due not more to the high position of the Governor General in Council than to the character and influence of the important body we have the honour to represent.

3. We believe with the Governor General in Council that the Association has been misinformed regarding the operation of the Stamp Act, and have already supplied it with more accurate knowledge on the question. In Bengal at least the law has been regarded as a boon to the capitalist, calculated to give increased security to his transactions.

4. We have read with pain the remarks of his Excellency at the conclusion of paragraph 5 of your letter. We should be wanting in our duty, however, to the great interests we represent were we not to assure his Excellency that Mr. Haywood's instructions as quoted marginally do faithfully represent the views of a large and increasing section of the English community. These views may be a matter of regret, as his Excellency feels them to be, and, as implied in your letter, they may possibly be wrong in themselves; but that they are growing in extent and force as Mr. Haywood represents is, we believe, a plain statement of fact. But we would respectfully beg to point out that, however

"You cannot too seriously impress the Government of India with the fact that wide-spread dissatisfaction exists and is daily growing in this country with the present unsound and oppressive system of the land tenure of India."

open the Association be to your imputation of ignorance on the subject of landed tenure in India, information regarding the details of a system admitted to be so cumbrous and complex is by no means indispensably necessary to a correct judgment on its social or agricultural influences. These latter are to be seen in the actual condition of the people, in its various aspects and relations, and in the state of their husbandry, the distribution of capital among them, and other points needless to specify, but on all of which opinion may confidently be arrived at without any deep knowledge of those intricate tenures which are the growth of centuries of unprogressive civilization. It is because the main results of the land revenue system of India as thus exhibited are in many most important respects productive of effects quite inconsistent with national growth and progress, and with some of the highest interests of India and England, that the Association desire to see such modifications made in it as will alter its present tendencies. We are compelled by the allusions in your letter to add, that in seeking these modifications the Manchester Cotton Supply Association, as a body of honourable Christian gentlemen associated for a great national object, do not deserve the imputation of so seeking them as to over-ride established private rights, or to violate the principles of equity and justice towards their fellow native subjects

jects. Any specific disavowal of such desires would, we conceive, be scarcely consistent with the respect we owe to our constituents and ourselves. But we feel assured that within the limits of law and right such changes might be introduced into the regulations governing the revenue system of India as would greatly promote the interests of the mother country and her most important dependency. With the unrivalled knowledge of detail and administrative skill at the command of the Government of India, we believe that these changes could be made in a manner which would be alike beneficial to the existing proprietor of the soil and the European or native capitalist.

5. With reference to your paragraphs 6 and 7, we beg, on behalf of the Association, respectfully to express our gratitude for the earnest attention given to the question of the sale of waste lands, and venture to hope that a favourable decision may be come to in time to admit of the necessary financial and other arrangements being made for greatly increased sowings of cotton in June 1862.

6. We are obliged again to differ with regret from the conclusion expressed in paragraph 8 of your letter under reply, because we are satisfied that no system of culture based on traditional and purely empirical practice, and carried on without capital, can possibly be equal to one resting on thorough scientific knowledge, prosecuted with vigour and with all the appliances which European energy and capital would command. If it were not so, cotton must be an altogether exceptional case, and we must respectfully submit that the native cultivator has much to learn from the scientific discoveries in agriculture made during the last few years in England and America.

We can quote no stronger illustration of our conviction on this point than the history of another of the great staples of India, on which the full advantages of European knowledge have been bestowed. It is believed that the original stock of the Carolina rice was introduced into the States from Bengal. There are no such marked physical or other differences between the rice swamps of Carolina or the Delta of the Mississippi and those of the Ganges as to account for the fact that in the English market the Carolina rice brings double the price of Bengal. But there are great and in truth radical differences in the methods of culture, and their differences are due solely to the superior intelligence, freedom from all mere traditional prejudices which the planters of the Southern States bring to their rice cultivation. We believe that with cotton, as with rice, the same influences would produce similar results; and thinking as we do that many of the Indian practices in cotton cultivation are entirely wrong and uncongenial to the habits of the plant, we would anticipate a marked improvement when European intelligence directed the work,

7. Although the amount of land accessible, unappropriated, and at the disposal of Government may be but small, we submit that great tracts of country admirably suited for cotton cultivation exist within 200 or 300 miles of this port and are already accessible by the railway, the rail and the main trunk road in the healthy districts of Hazareebagh, Palamow, and the Sonthal country; there is unoccupied land, we believe, from some personal inquiries, to grow a million of bales, and well suited for the purpose, as is proved by the abundance of wild species of *Malvaceæ*, some of them closely allied to the cotton plant. The burning down of the jungle would at once free the land for the cultivation, and the sole obstacle to the settlement and investment of capital is the difficulty of obtaining a sufficiently long lease on fair terms from the independent Rajahs who exercise the rights of proprietors of the soil. The Government of India has in your letter insisted strongly and justly on the rights of property, with a great national calamity impending over England, and with a future before her as regards her manufacturing interests so uncertain that no possible precautions are likely to be neglected by her statesmen to guard against the worst events that may happen. It would be right, we respectfully submit, that the Government of India should equally insist on the duties of property; and in such manner as may be consistent with its views of propriety, should bring its aid towards the beneficial occupation of these now useless lands by persuading the proprietors to accept fair and just terms. We greatly fear that the publication of paragraph 12 of your letter will have a most injurious effect in England, as leading to the belief that no land fit for cotton cultivation by Europeans is procurable in Bengal, whereas we believe that large tracts do exist.

8. In closing this communication we ask permission to express our deep sense of the attention given to all our representations by his Excellency the Governor General, and although it has been our painful duty to take different views on several important points than have been taken by his Excellency, we have the firm conviction that his Excellency fully appreciates the importance of the subject, involving as it does the well being of three million of Englishmen and the development of the resources of India, and that he is giving it the consideration it deserves.

Enclosure 2, in No. 46.

From Mr. S. O. Sutton, Interim Secretary of the Cotton Supply Association, to Messrs. Mosley & Hurst, Calcutta; dated Manchester, 3 September 1861.

I BEG to acknowledge your esteemed favours of May 31st, June 15th, and July 16th and 22d, and of the valuable documents enclosed therein.

I.
India.

The committee have read with deep interest the reply of the Indian Government through its Secretary Mr. Grey to the communication which you were good enough to lay before his Excellency the Governor General in Council on behalf of the Association. They freely admit that Mr. Grey's letter embodies statements from which they derive encouragement and satisfaction, and which are so many additional evidences of the excellent intention and sense of responsibility which characterise the policy of the present Government of India; but on the other hand certain suggestions, to which the Committee attach considerable importance, are not treated so explicitly as could be desired. Respecting one or two of the more important, the committee would respectfully offer a few observations, and they would thank you to communicate them in whatever form you deem most advisable to his Excellency the Governor General.

The committee are glad to hear that great progress has been made, and is still being made in the improvement of the local courts. Though they are undergoing a gradual modification, it is to be feared that they must be subject to much more extensive improvement before they can be said to offer that facility for cheap and speedy justice which is one of the indispensable conditions to a large introduction of the European element into the industrial operations of the country. The committee take this opportunity of again expressing the hope that in progressive or prospective legal changes, unceasing attention may be given to the removal of obstacles which still render contracts between capitalist and cultivator all but a dead letter. Till the ryot is taught that he cannot with impunity receive money advances, and then wilfully neglect to fulfil his share of the agreement on which such advances are made, till the money lender is made to feel that ready redress is offered to the ryot for any attempt to take unfair advantage of his poverty; till in short good faith, the foundation of all commercial morality, is compulsorily enforced between the two, there is little hope that the capital of the one will be invested in the culture of the soil, or that the condition of the other can undergo any considerable amelioration.

The committee are willing to hope that they are misinformed as to the extent of the obstruction offered by the new Stamp Act to commercial transactions. They have, however, before them the following statement from an intelligent gentleman who professes to speak from personal experience. Having referred to the exorbitant rate at which simple contract stamps are issued, he says, "as all engagements must be on stamped paper, the merchant cannot have them printed, because he cannot tell beforehand how many stamped papers will be required, or of what value each is to be; consequently every engagement must be written, and when it is remembered that engagements have to be made with some thousands of ryots and others, the enormous trouble and labour involved, and the time taken up in writing them at the several stages of the merchant's tour, can be better imagined than described; neither are stamped papers to be had wherever and whenever they are required. The merchant who invests capital in any article of commerce requires them chiefly at the villages, and at all times; but they must be sent for either to the collector's or the nearest tahsildar's office, where only they are sold by licensed vendors and at stated hours.

The next subject referred to in Mr. Grey's letter is one of vastly greater moment, and the committee regret to observe that their views and wishes respecting it do not seem to be clearly appreciated. In asking for an improved land tenure, they do not become the advocates of spoliation. They seek to encroach upon no man's vested interests, and all that they desire may be accomplished without the slightest improper interference with that "extraordinary variety of private rights and intricate tenures" to which allusion is made. The extent of their requirement is this, that land may be sold or granted in perpetuity by the proprietors as a heritable and transferable property, subject to no enhancement of land tax; in other words, that any man may be at liberty to purchase land from its present holders with such a title as will give him and his heirs the benefit of improvements made thereon, instead of the fruits of their outlay or industry being appropriated by the tax gatherer. Any measures which the Government may take in order to realise so desirable a result would, the committee feel assured, receive the cordial approval, not only of the existing class of landowners and those seeking land investments, but of almost every person in India and in this country who has given an unbiased consideration to the subject.

In connection with this question of land tenure, which they consider the great turning point in the destiny of India, the committee do not overlook Mr. Grey's welcome intimation that there is a probability of waste lands being shortly granted on satisfactory conditions. Though nothing is said as to the precise nature of those conditions, the committee hope that they are to embrace a permanent tenure, as without that no conditions can be satisfactory, or give that free scope for the investment of European capital which it is said they are intended to afford.

There is one statement in Mr. Grey's communication which has (perhaps more than any other) arrested the attention of the committee, and upon which, with all deference to the source from which it proceeds, they desire to make a few remarks. They refer to the expressed opinion of the Governor General that the native of India has little or nothing to learn from the agriculturists of other quarters of the globe. This they have read with considerable surprise. They thought it was universally admitted that the agriculture of Hindostan was essentially rude and primitive; that the implements by which it is conducted are most inefficient; that as to the use of machinery, the proper rotation of crops, the application of manures, the choice of seed, and in fact, the entire round of culture, the natives are deficient, if not in knowledge, at least in practice. This view the committee
formed

formed on the testimony of travellers of repute, and of innumerable witnesses now or formerly resident in India, who have spoken and written upon the subject. As evidence in point, the committee may mention that of Major General Tremenhoe and others, given before the Select Committee on Indian Colonization and Settlement, the whole moral of which is that advanced science and skill must accompany capital in developing the agricultural resources of India. They would also respectfully submit that, as in America 600 lbs. of clean cotton per acre is considered an average crop, whilst in India the average crop does not amount to 100 lbs. per acre, they believe there is full scope for improved culture, and a better development of the industry of that country; and that satisfactory evidence of the result of cultivation is seen in the few thousand bales of a highly improved and excellent class of staple already received from thence. The committee regarded a backward state of agriculture in India as the natural result of clearly defined causes operating in that country. It would readily be accounted for by the existing laws relating to landed property, and the poverty of the cultivator, which deprives him of all incentive to improvement. From such considerations the committee venture to hope that the opinion of his Excellency the Governor General was not intended to have this wide bearing which appears to be given to it in the letter before them.

The committee believe that a serious reconsideration by the Government of the points now referred to, would greatly tend to the furtherance of the objects which the Cotton Supply Association have in view.

Enclosure 3, in No. 46.

(No. 2211.)

From *W. Grey*, Esq., Secretary to the Government of India, to Messrs. *Mosley & Hurst*, Honorary Agents of the Manchester Cotton Supply Association; dated Fort William, 9 December 1861.

Gentlemen,

I AM directed to acknowledge your letter of the 27th July, and also a copy of a letter from Mr. Sutton (interim secretary to the Cotton Supply Association), of the 3d September, which, with much correspondence bearing on the same subject, and printed in the Cotton Supply Reporter, has been perused by his Excellency the Governor General in Council with great interest. Home Department.

2. His Excellency in Council advisedly refrained from earlier replying to your letter of the 27th of July. He hopes that some of the measures indicated in my letter of the 2d of July, and which have since been adopted by the Government of India, may exercise a direct influence in increasing the supply of Indian cotton sent to England; and that the information which has been largely accumulated and published by the Government will help to show what can with best chance of success be done by private persons for the attainment of an object which all concur in viewing as one of the highest national importance.

3. The Governor General in Council would beg that, in considering the remarks which I am now directed to make, the Cotton Supply Association will bear in mind that there is a distinction to be drawn between measures which are calculated to increase ultimately the permanent supply of cotton sent from India to England, and measures the first object of which is to increase and improve that supply immediately, so as to meet a sudden and most urgent necessity. Much of the difference between the views of the Government of India and those of the Cotton Supply Association, as expressed in some of the papers before him, may, his Excellency in Council believes, be accounted for if this distinction be kept in view.

4. The Governor General in Council has seen with pleasure the explanation given in Mr. Sutton's letter of the views of the Cotton Supply Association respecting the tenure of lands. Certainly the terms in which, in the enclosure to your letter of the 20th of June, the Association had denounced the perpetuation of what they described as the antiquated, vexatious, complex, and oppressive systems of land tenure in India, had led the Governor General in Council to believe that some much more stringent and sweeping change than that which Mr. Sutton has indicated was desired by the Association. The extent to which, in the opinion of the Governor General in Council, lands already assessed to the State may be made redeemable from land tax is set forth in a Resolution of the 17th of October, on the subject of the sale of waste lands and the redemption of the land tax. The measures therein promulgated, the Governor General in Council has deemed to be advisable on the broadest grounds of public policy, and he will be glad if they tend to remove what the Cotton Supply Association consider to be practical and substantial impediments to the improvement and extension of the production of Indian cotton. His Excellency in Council has no expectation that this result will show itself otherwise than very gradually; but he is confident that the production of cotton, and of all other great staples, will in the end feel the good effects of any measure which encourages the investment of capital in land, and the application of European energy and science to Indian agriculture.

5. The Cotton Supply Association express surprise at the observation in my letter of the 2d of July, that "the general testimony of the best qualified observers, American as

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well as English, goes to prove that in the details of cultivation the native of India has little or nothing to learn from the agriculturists of other quarters of the globe, and that it is only in the gathering, cleaning, and transport of cotton, and not in its cultivation that much improvement can be expected;" and they remark that this opinion is opposed not only to their own previous general impressions, but to the recorded evidence of competent witnesses, "the whole moral of which," it is observed, "is that advanced science and skill must accompany capital in developing the agricultural resources of India."

6. This last proposition, in the general form in which it is put by the Cotton Supply Association, the Governor General in Council sees no reason to dispute; nor does it appear to him at all inconsistent with the statement in my letter of the 2d of July, at which the Cotton Supply Association express surprise. Much, the Governor General in Council readily believes, may be done by European science and skill, accompanied by capital, in improving and increasing the production of Indian cotton; but, judging from the testimony to which he referred, the Governor General in Council would expect far greater and more immediate results from that science, skill, and capital if applied to the "gathering" (including the picking and collection) of the cotton, to its cheaper, speedier, and more effectual "cleaning" by means of improved machinery, and to its packing and "transport," than from the same science, skill, and capital applied to the ploughing, sowing, harrowing, weeding, and other "details of cultivation."

7. The general testimony on which the Governor General in Council relied, and to which he referred, was that, not of officers of Government, but of numerous practical cultivators and dealers in cotton, and especially of the large body of American planters who were brought to India by the Court of Directors about 18 years ago, distributed to all the best cotton districts throughout British India, and employed for several seasons, at great expense, in endeavouring to improve the native cultivation of cotton. Nothing was omitted which could aid them to effect the purpose for which they came to India; but as far as the "details of cultivation" went, their operations were attended with hardly any permanent result of practical value. The Governor General in Council believes that the testimony of every one of these gentlemen, and of all who watched their experiments, was very much to the effect stated in my former letter; and that while there was little prospect of any improvement in the agricultural processes which precede the ripening of the cotton pod, that is, in the "details of cultivation," there was then and still is great room for improvement, and for the application of European science, energy, and capital in every subsequent process, from the picking of the cotton to its final shipment, *i. e.*, in its "gathering, cleaning, and transport."

8. The Governor General in Council believes that these opinions are thoroughly in accordance with the experience of several gentlemen who, since the period when the American planters were employed by Government, have engaged on their own account in the cotton trade in Western and Southern India.

9. The improvement in Dharwar cotton, to which the Cotton Supply Association refer, is a strong confirmation of the opinion of the Governor General in Council that the advantage to be derived from European science and skill will be found less in the details of cultivation than in the other processes connected with the production of cotton and its transport.

10. One great improvement has indeed been effected in Dharwar by the general introduction of New Orleans seed; and, inasmuch as the seed is exotic, this may be considered as a result of foreign science or skill. But the New Orleans cotton is only one of many kinds of exotic cotton, the seed of which was pressed on the notice of the cultivators of Dharwar with all the influence of the local government officers; and in its selection, as the species best adapted of all to their soil and climate, the cultivators showed no backwardness as compared with intelligent farmers in other countries; while the result, if not retarded, was certainly not accelerated by Government interference.

11. In every other respect, from the sowing to the gathering of the crop, there has been, as far as the Government of India is informed, little change effected of late years in the details of cultivation in Dharwar which can be fairly claimed as due to European science or skill. It is in the subsequent processes, in better and more careful gathering, cleaning, packing and transport, that great improvement has been effected in the Dharwar as well as the Broach cotton, mainly owing to the capital and enterprise of a few European firms which have established agencies on the spot.

12. I have been directed to state at some length the reasons of the opinion to which the Cotton Supply Association take exception, not from any doubt of the possible value of the machinery and artificial manures, the drainage and other modern improvements to which European agriculture has of late years been so largely indebted, nor simply because the opinion is the result of experiments conducted by Government at great expense and with one uniform result, which appears in the lapse of years to have been overlooked; but because while the possibility of real and material improvement in the details of cultivation is at least questionable and distant, there can be no doubt whatever of the immediate and valuable results which must follow the application of European science and skill to the other processes which intervene between the ripening of the cotton and its final shipment. It is, moreover, only in these latter processes that the co-operation of Govern-

ment can be of much value. For although, even as regards these, it rests with the purchaser alone to ensure clean picking and freedom from leaf, yet every improved gin or churka, every packing press, every mile of railway, or even of cart road, and every other appliance for facilitating the transport of the cotton has an immediate and direct influence in cheapening the cotton, improving its general quality, and increasing its supply; and these are improvements in the introduction of which Government can more or less usefully co-operate with private enterprise. This being so, it seems very desirable that attention should not be diverted from practical objects which are capable of easy and, what is more to the present purpose, of early realization, to the pursuit of doubtful and remote possibilities.

13. In requesting the attention of the Cotton Supply Association to this view of the question, I am directed to point out that every report received and every fact recorded, whether in official or unofficial form, goes to prove—

1st. That there is already grown in India a vast supply of cotton capable of increase by extended cultivation consequent on increased demand.

2d. That the large portion of the existing supply which is now absorbed by the local manufacturers is, to a considerable extent capable of diversion, if increased prices are offered by exporters.

3d. That while the latter result may, to some extent, be immediate, the former requires the lapse of at least one season after the demand arises, and some prospect of a continuance of that demand.

4th. That every rise in price of Indian cotton in England, however small, if likely to be permanent, exercises an immediate effect on the export of cotton from India to England.

5th. That the quality is capable of great improvement, but by a more tedious process.

14. These considerations lead to the general conclusion that India can, to a far greater extent than heretofore, supply the cotton required by England, and the Governor General in Council sees no reason to doubt that any permanent diminution of the supply to England from America may be met by an increased export from India.

15. To what extent this result can now be aided by any direct action of Government is a question on which the Governor General in Council would be glad to learn the opinion formed by Mr. Heywood after visiting the cotton districts.

16. With reference to the remarks contained in your letter of 16th of July to the secretary of the Cotton Supply Association, commenting on my letter of the 2d idem, I am instructed to forward a copy of the replies of Mr. Wilson, the deputy magistrate at Burhee, to questions addressed to him on the subject of your letter, as far as it refers to his district. It will be seen that Mr. Hurst is mistaken in supposing that the district offers an exception to the general truth of the assertion that there is very little land fitted for the production of cotton and at the same time "unappropriated, accessible, ready for immediate occupation, and at the disposal of Government;" such, in fact, as Government could dispose of with any expectation of bringing about a large and rapid increase of cotton culture.

17. The Governor General in Council does not gather from Mr. Wilson's replies that in the district referred to there is anything done or left undone by the Government which can in any way check the cultivation of cotton by any one who chooses to undertake it. It appears that land is to be had from the proprietors on reasonable conditions; and assuredly there is no more room or excuse for the Government to exercise, as suggested by Mr. Hurst, its influence with the Raja of Ramgurh, or with any other raja, for the obtaining of 5,000 square miles on easy terms, than there would be for a like interference by Her Majesty's Government with an owner of land in England. The suggestion that the Government can or ought to use its influence for such a purpose could only mislead and disappoint any who attached weight to it. Whether cotton can be profitably grown in that part of the country or not, is a question for practical agriculturists alone to decide; and probably the experiments now being made there on a large scale by Mr. Blechynden will go far to settle any doubts on that head.

I have, &c.

W. Grey,

Secretary to the Government of India.

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Published in the
"Cotton Supply
Reporter" of the
2d September 1861.

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QUESTIONS on the Letter of Messrs. *Mosley* and *Hurst*, dated 16 July 1861, published in Cotton Supply Report of 2 September 1861.

ANSWERS.

1st. To what extent does the grand trunk road traverse your division, and how far does your jurisdiction extend perpendicular to the line of road?

1st. The Burhee sub-division extends from Muddoopore on its eastern boundary to Dunwa on the west, where it meets the Sherghotty border, and the distance reversed between these points is 73 miles.

The total area is close upon 3,700 square miles, of which 2,800 are situated to the north, and about 900 to the south of the grand trunk road. The northern boundary touches the districts of Monghyr and Behar; and to give an approximate idea of the borders of the Burhee district, an arc might be described with a radius of 50 miles from Bugodhur as a centre to Ganwa Sutganwa to the northward, and reaching to Dunwa on the west, and the neighbourhood of Serampore on the east.

2d. Who are the great landowners in your division, and on what terms are they in the habit of granting lands to persons wishing to cultivate?

2d. The most respectable of the landholders in point of property are named in the margin.* Land is generally let upon short leases for periods of from three to five years.

3d. Is there any land in your division fit for growing cotton, unappropriated, so as to be at the absolute disposal of Government without reference to any zemindar or other person having a right to grant or refuse permission to cultivate; accessible, requiring no roads to be made for the transport of the produce; ready for immediate occupation, so as not to require clearance of jungle, or other preparation? If there are such lands, where are they situated? and what is their estimated extent? and how should a person wishing to cultivate cotton on them proceed to get possession of them?

3d. No such land is available, or indeed exists in the district.

4th. What is the extent of lands in your division fit for growing cotton, which are more or less defective in one or other of the requisites above specified, and how should any person wishing to grow cotton on them proceed, in order to obtain possession of them?

4th. There is a considerable portion of land that might be found suitable for cotton, but in the absence of sufficiently extended experiments, I cannot speak positively on the point.

The best method of cultivating would probably be to take leases of estates that were most suitable and populous, and engage with the ryots to cultivate and deliver cotton to the speculator, who would be obliged to offer a remunerative price for it.

5th. What measures occur to you as in the power of Government and likely to promote the cultivation of cotton without trenching on the province of the private capitalist or cultivator?

5th. Aid on the part of Government might be afforded by improving the means of transport, and providing additional and better roads.

6th. Is

* Moharajah Simbhonath Sing Bahadoor, Zemindar Purgunnah Ramgurbh, and Rajah Ram Kurrin Dao, of Bursote.
Rajah Jhundool Sahee, of Rampore.
Rajah Sibraj Khan, of Jagodee.
Thakoor Chooramun Sing, of Murkutchu.
Baboo Burrumnarain Sing, of Pudmah.
Thakoor Kulleenath Sing, of Buggooroo.
Landholders within the Moharajah's estates in Purgunnah Kurruckdecha.

Moharajah Runbahadoor Narain Dao, Zemindar of Dhunwar.
Rajah Parinath Sing, Gadee Palgunjoo.
Rajah Giddower Narain Sing, of Gadee Serampore.
Teekaet Chooramun Sing, Gadee Dorundah.
Teekaet Pool Kurrin Sing, of Gadee Gowan.
Teekaet Than Narain Sing, of Gadee Sutgowan.
Teekaet Roopmungul Sing, Gadee Kergoo.

6th. Is cotton an ordinary staple production of your division? and what are the obstacles to its more extensive cultivation?

6th. It is not. The principal obstacles are the scanty population, and the fact that other produce pays better, and is more suitable to their immediate wants. Also water for irrigation, if necessary, is very scanty, and would prove a serious obstacle.

7th. Can any parties acquainted with your division, but who are not in the service of Government, suggest any such measures?

7th. Mr. Blechynden is actively engaged in the cultivation of cotton in this district, and I doubt not will be prepared to furnish any information in his power that may be required.

8th. Would a private person wishing to obtain land for growing cotton from native rajahs or zemindars, be able to do so without the aid of Government, and could Government give such aid without in some degree becoming responsible to the rajah or zemindar on the one hand, or to the cotton cultivator on the other, for the conduct of the other party to the bargain, and thus in effect becoming itself a party?

8th. Parties wishing to engage for lands would not, I think, find difficulty in procuring them from the proprietors, with whom it does not seem advisable for Government to interfere.

Burhee Chutty,
16 November 1861.

A. E. Wilson,
Deputy Magistrate.

— No. 47. —

Home Department—Revenue—No. 1, of 1862.

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir,

REFERRING to the 4th paragraph of your Despatch, No. 30, dated the 3d ultimo, we have the honour to state that we have called the attention of the Lieutenant Governor of the North Western Provinces to the remarks made by Mr. Paterson Saunders, in the 39th paragraph of his Report on cotton, regarding the impressment of carts for the wants of Government; and have requested his Honor to state whether there is any reason to believe that the complaint is well founded.

2. A similar communication has been made to the Government of Bengal; and we have also requested Mr. Saunders to inform us to which of the cotton districts his remarks on the subject of the impressment of carts more especially apply, and to communicate any special information on the matter that may be in his possession.

3. We shall address you again when we shall have received replies to these communications.

We have, &c.

Canning.
H. B. E. Frere.
Cecil Beadon.
R. Napier.
S. Laing.
W. Ritchie.

Fort William, 7 January, 1862.

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— No. 48. —

Home Department—Revenue—No. 3, of 1862.

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir,

REFERRING to the 3d paragraph of your Despatch (No. 25), dated the 8th of October last, we have the honour to transmit for your information a copy of the correspondence with the Government of Bengal noted in the margin, relative to a proposal to establish a Government cotton farm and factory in the Chittagong hills, which, you will observe, has been discouraged.

We have, &c.

Canning.
H. B. E. Frere.
Cecil Beadon
R. Napier.
W. Ritchie.

Fort William, 30 January 1862.

Enclosure in No. 48.

(No. 1245 A.)

From *E. H. Lushington*, Esq., Secretary to the Government of Bengal, to the Secretary to the Government of India; Home Department.

Sir,

Fort William, 10 December 1861.

Revenue.

IN continuation of the officiating Under Secretary's endorsement, No 1127 A., dated 7th ultimo, I am directed to forward, for the perusal of his Excellency the Governor General in Council, the accompanying copy of a letter* from the Board of Revenue, submitting a Report from the officiating Commissioner of Chittagong, relative to the Lieutenant Governor's proposal to establish Government cotton factories in the hill tracts of that district.

* No. 762, dated
1st ultimo (one
Enclosure).

2. The Lieutenant Governor desires me to observe that these papers show the remarkable fact of a great decrease of the cultivation of cotton in the Chittagong hills, or at least of its transmission from those hills to the port and market of late years, though the price obtainable for it has largely increased. Doubtless the prices of all agricultural produce have largely increased at Chittagong, as elsewhere, within the same period; but the present price of cotton reported, viz., 17 rupees, and that reported by Mr. Ricketts in 1848, viz., 10 rupees a maund for cleaned cotton, amounts to 70 per cent.; and it is not probable that prices generally at Chittagong have increased more than that.

3. The method of cultivation in these hills described by Mr. Buckland, sufficiently explains the inferiority of the cotton produced. There is no reason to doubt that good cultivation would greatly improve the quality of the Chittagong hill cotton, as Mr. P. Saunders argues in his interesting letter of the 12th July last, a copy of which is herewith submitted. Such a style of cultivation as Mr. Buckland describes very plainly requires to be improved by external agency. The remarks of the Government of India on this head, in reply to the agents of the Manchester Cotton Supply Association (paragraph 8 of letter, dated 2d July 1861), are doubtless applicable to the great cotton districts of India; but the remarks made in Mr. P. Saunders' letters are even more certainly applicable to the Chittagong Hills.

4. In attempting to introduce improved cultivation, it would no doubt be desirable to try foreign seeds of several good varieties experimentally, and to be guided by the results of the several experiments in future practice. But the Lieutenant Governor is of opinion that caution and moderation should be exercised in regard to foreign varieties of cotton; and that it should be impressed upon all concerned in any attempt to improve the system of cultivation, that until they can found upon actual experiment successfully conducted, their reliance should be on the most careful possible cultivation of the best sort of cotton already established as a good local crop. When a novelty is avowedly tried, on a small scale, as a mere experiment, no harm is done when it fails, as it is always likely to do. But harm is done, and the spirit of improvement is checked, when cultivators are induced to rely absolutely on some novelty, which fails, as in the case of the failure of the cotton seed mentioned by the Commissioner of Chittagong, which is but one of a thousand similar failures. The Lieutenant Governor makes this remark, because he thinks there is a general tendency amongst persons interested in improving the cultivation of cotton in India, to think that all depends on introducing some foreign variety of seed which produces the best quality of cotton, and is highly approved in some other part of the world.

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The practical commercial object is not to produce the best possible quality of cotton, for such cotton, if produced, may not be a good crop to grow. The object is to produce the most profitable crop of cotton possible; and it is only as a means to that end that improvement of quality can be permanent, when attained.

5. The Lieutenant Governor does not think that Mr. Buckland's objection to the original scheme of establishing factories for buying, cleaning, and screwing cotton in the Chittagong Hills, founded on the small quantity of cotton now produced in these hills, is very valid; because the very object of the scheme is to encourage and increase the growth of cotton there, and there is not the least doubt of the natural capacity of the hills for a vastly increased growth. Neither does he think that the high price of cotton in the Chittagong Bazar would necessarily make the experiment too unremunerative, because it is not essential to prepare the cotton for the English market. An increased production must release for export a somewhat proportionate quantity of exportable cotton, even if it cannot be exported itself.

6. But the Lieutenant Governor thinks that the improvement suggested by Mr. P. Saunders of combining with the factory a small model plantation of cotton, of which both the Commissioner and the Board fully approve, extremely desirable for all the reasons assigned, and begs strongly to support that suggestion.

7. The Lieutenant Governor is quite sensible that private enterprise would be the best means by which the experiment he has recommended could be tried. But practically, in this instance, private enterprise is out of the question; and to postpone the attempt till it is made by private enterprise would be but one way of saying that the attempt is not to be made. Not only will no private person make the experiment, but no private person or company in the present state of things could be, with fairness, encouraged to make the attempt. There will be no immediate profit; and the political considerations which make such a project of the highest promise to the State, are nothing to any particular individual in a commercial point of view.

8. The Lieutenant Governor therefore recommends the scheme, with the improvement suggested by Mr. P. Saunders, and approved by the Commissioner and the Board. If the Bengal Government is authorised to undertake it, he is of opinion that it will not have justice done it unless a competent person is selected expressly to conduct it.

9. The latest news of the intentions of the hill tribes is very favourable. Rutton Paea, having comprehended the lesson taught by the penetration into the recesses of the hills of the expeditionary force of last year, and two other chiefs, have made submission, and negotiations with a more distant tribe are in progress. The time for commencing a civilising experiment such as the Lieutenant Governor proposes, is therefore to all appearances propitious.

I have, &c.

E. H. Lushington,
Secretary to the Government of Bengal.

From *H. L. Dampier, Esq.*, for Officiating Secretary to the Board of Revenue, to the Secretary to the Government of Bengal (No. 762); dated 1 November 1861.

Sir,

WITH reference to Government Orders noted in the margin, I am directed by the Board of Revenue to forward the copy of a report submitted by the Officiating Commissioner of Chittagong (No. 214), dated the 3d September last, respecting the Lieutenant Governor's proposal to establish Government cotton factories in the hill tracts of that district.

No. 703 A, dated
8 July 1861.
No. 704 A, dated
8 July 1861.
No. 750 A, dated
24 July 1861.

2. It will be observed that there are two facts in connexion with the cultivation of cotton in this district which have been brought to light by the investigations of the Commissioner, in communication with the local authorities. The first is, that the production of cotton there is confined to the wild and hilly tracts of country which are some distance from the Sudder station; the second, that the quantity of cotton grown in these hill tracts has decreased very considerably of late years, and that the exports of the uncleaned cotton passed through the custom-house during 1861-62, amounted to only 200 maunds. If this return, and the returns prepared by Mr. Bamber for the three preceding years, as quoted in para. 7 of the Commissioner's Report, approach at all to accuracy, the falling off in the cultivation and export of the article is very remarkable, when compared with the results reported by Mr. Ricketts, who was commissioner of the division in 1848, when the estimated crop of the district was put down at 75,000 maunds of uncleaned cotton.

3. The Officiating Commissioner does not appear to entertain any sanguine expectations that the outturn of the cotton crop will improve in the present year, or even for two or three succeeding years. The disturbed state of the country, and the liability to inroads from the uncivilised tribes of the border, may not improbably operate to discourage extended cultivation for a time; but there is reason to hope that the indolent habits of the people (which is adduced by Captain Macgrath as another reason for expecting small

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results from this neighbourhood), will in some measure give way to an increased demand for the cotton, which it appears European mercantile agents at Chittagong are already prepared to encourage, if any prospects are held out of profitable returns.

4. It is proper to notice, however, that in the absence of a very much more extensive cultivation than at present exists, it is hopeless to expect that the cotton of this part of the country would secure any position in the English market, for the price of the article at Chittagong is maintained by the very limited produce. In the 8th paragraph Mr. Buckland treats of the price and quality of the product grown in the hill tracts, in regard to which I am desired to observe that the Board are informed that the Rangoon cleaned cotton, which is of the same kind as that produced in Chittagong, was selling not long ago, in the bazaar at Calcutta, for 13 rupees per maund; and as the cotton produced in the hilly tracts of the Chittagong district, which is doubtless similar in quality, is worth, in the bazaar of Chittagong, 17 rupees per maund, there is, as far as they are aware, no present inducement to send it to Calcutta. It is probable that the indigenous cotton has been chiefly required for local consumption, and very little for exportation; and it is evident that if the present price is maintained, which is equivalent to more than 5*d.* per lb. at the place of production, the demand for it in England would only arise when the price of the article there has risen beyond anything that may at present be expected.

5. The method of cultivation which is described by Mr. Buckland in the 11th paragraph of his letter, corroborates most completely the account given by Mr. P. Saunders in his letter to your address, dated 12th July 1861. The Board fully concur with these gentlemen in the opinion that nothing but failure can come of such a system, if left unaided to its own resources; and they agree, therefore, with the Commissioner in considering that an experimental garden or factory might with advantage be established in some carefully selected place in the hills, and that a qualified person should be sent to Chittagong before the next rains to superintend the planting of cotton seed. The instances mentioned by the Officiating Commissioner serve to show, that if such an experiment is left in the hands of the uninitiated hillmen who now grow it, it is pretty sure to prove unsuccessful. It would be advisable that seed from other parts of India, where better cotton is grown, should be used, and experiments tried also with seed of American and Egyptian origin.

6. The capability of the soil for the production of serviceable cotton seems to be undoubted, and the Board have ascertained that the means of communication between the cotton-producing tracts and the port of Chittagong are excellent. It appears that the Officiating Commissioner will, after his contemplated tour, be in a position to point out eligible sites for the cultivation of cotton in the hill tracts of Chittagong. The first location, if a Government factory is finally determined on, would probably be on the Kurnafulee River, or its tributary, the Cossalong. These rivers are navigable throughout the year for boats of three-feet draught, and there are numerous minor streams flowing into them, which would be available for the transport of cotton in boats of a smaller size.

7. I am desired to add, that the Kurnafulee River flows close by the Sudder station, and forms the port of Chittagong, which can be entered by sea-going ships of a good size without danger or difficulty, except during a couple of months in the year.

8. A copy of Mr. Rickett's Report, to which reference has been made, accompanies this letter.

From *C. T. Buckland, Esq.*, Officiating Commissioner of the Chittagong Division, to the Secretary to the Board of Revenue (No. 214); dated 3 September 1861.

Sir,

I HAVE now the honour to submit the report called for in your letter (No. 104), dated 19th July, on the proposition made by the Lieutenant Governor of Bengal to establish Government cotton factories in the hill tracts of Chittagong.

2. I have already informed the Board, that on reaching Tipperah, and finding this subject awaiting my report, I consulted by letter the Collector of Chittagong and the superintendent of the hill tribes, and the substance of the answers given by those officers will be found hereafter. Since my arrival at Chittagong I have made such further inquiries as have been possible within such a limited time.

3. It must be borne in mind that my observations will apply solely to the cotton produced in the hill tracts of Chittagong. It may be said that, practically for commercial purposes, there is no cotton grown in the plains at present, though many of the natives assert that it was from a superior sort, called Nagalea, grown only in the plains, that the finest Dacca muslins were made; but that is now only a matter of history.

4. There is every reason to believe that the quantity of cotton grown in the Chittagong Hill tracts has considerably diminished of late years, and that it is less than ever in the present year.

5. If the Board will refer to the letter (No. 403) addressed to them by Mr. Commissioner Ricketts on 26th July 1848, they will find that Mr. Ricketts and the Collector, Mr. Sconce, estimated the cotton crop grown in the hills at that time at 75,000 maunds

of

of uncleaned, or 25,000 maunds of cleaned cotton, which shows a very unfavourable proportion of seed to cotton in weight. This uncleaned cotton was sold by the hillmen to the Bengalee traders at Rs. 2. 8. a maund; and the price of the cotton, when cleaned and exposed for sale at the marts in the plains, was from Rs. 9. 8. to 10 rupees per maund.

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6. I find a further report submitted by Mr. Commissioner Steer to the Board in his No. 11 of 7th May 1858, in which it was stated that 40,000 acres cultivated in the hills yielded a cotton crop worth 1,80,000 rupees, which, at the prices current in 1848, would give 18,000 maunds of cleaned cotton; but Mr. Steer, in submitting this return, observed that much dependence could not be placed on it, an opinion in which I concur, on seeing the materials from which it was prepared.

7. From returns which Mr. Bamber, the Collector of Customs, has prepared for me, it appears that the exports of uncleaned cotton cleared through the custom-house on sloops bound chiefly to Naraingunge were as noted in the margin. It is not possible to say what quantity is taken away in the country boats called balaams, but I am informed that cotton is too bulky a cargo for the balaams.

	Maunds.
1858-59	- 3,529
1859-60	- 13,233
1860-61	- 2,895
1861-62	- 200

8. Mr. Ward, the Collector and magistrate of Chittagong, in his report to Mr. Commissioner Shalch, expressed his apprehension that this year, at least, and probably for the next two or three years, a very vast decrease rather than increase must be looked for in the produce of cotton, as the unsettled state of the country and the fear of Kookie incursions has driven the peaceably disposed settlers from their homes, and prevented a large number of them from cutting and burning the jungle for the "jooms," as the cultivated patches are called. Mr. Ward, in his present report to me, states that the goladars (or dealers) and others allege that there has been a great decrease in the cultivation of late years. They say that the produce of the district is only about 20,000 maunds of uncleaned cotton, though Mr. Ward holds this estimate to be too low. The present prices in the town of Chittagong are Rs. 6. 8. for uncleaned cotton, and 17 rupees for cleaned cotton, per maund. Mr. Ward has submitted to me some small samples of the cotton procurable at these prices, both cleaned and uncleaned. It is not worth while to send it to the Board, for it is identical with some Chittagong cotton that Mr. Blechynden, the Secretary to the Agricultural and Horticultural Society, showed me in Calcutta, and which he valued at 3*d.* a pound. It is clear, therefore, that this cotton is not of any use commercially.

9. Captain Magrath, the late superintendent of the hill tracts, states generally that there is no cotton now procurable for the purpose of cleaning and screwing, and he adds that the whole of this season's crop, if collected, would not suffice to fill "a couple of ships." He probably means Chittagong sloops, but he does not say so. He says that there are three reasons which will prevent any increase of cotton cultivation for some time; viz., the disturbed state of the country, the lazy and indolent habits of the people, and, lastly, their doubts as to there being a demand for the amount that they can produce.

10. The above testimony all concurs to show that the production of hill cotton has decreased; but I think it is waste of time to do further than refer to the test of prices. It is shown that the uncleaned cotton is now selling for Rs. 6. 8. in the town of Chittagong, and cleaned cotton for 17 rupees a maund. Mr. Sconce gives Rs. 2. 8. per maund as the price of uncleaned cotton in the hills in 1848, and 10 rupees as the price of cleaned cotton in the town; yet this cotton is only worth 3*d.* a pound for English manufacturing purpose. I should not omit to state that the Collector reports that a firm under the name of Messrs. Hollingsworth & Mack, who have recently settled in business in Chittagong, intend to buy cotton for shipment to Calcutta, if they find it profitable; but as yet they have bought little or none, and Mr. Hollingsworth has expressed some disappointment at the smallness of the quantity which could be got.

11. The next question is, whether an improved sort of cotton can be grown which will command a remunerative price. The mode in which cotton is now grown in the hills has often been described, but having often visited these joomb or clearings at Chittagong many years ago, and having within the last few weeks been in a joom in the hills of independent Tipperah, I will venture to repeat it. A piece of jungle which has not been touched for 10 or 12 years is selected, the trees and bushes are cut down about two months before the rains begin, and when they are dry they are burnt on the ground just before the rains. As soon as the rains begin, cotton, rice, melons or pumpkins, and two or three other things, are all sown together. The rice is the staple crop, and when the seed has come up, a casual observer might suppose that there was nothing but rice. The cotton produced under these circumstances has but a poor chance, and is a short-stapled rough sort, very adhesive to the seed, and therefore of small value.

12. I am not aware that any experiments have been made to try if this local cotton can be improved by cultivation for its own sake alone, *i. e.*, without admixture with rice and other vegetables. With regard to the attempts made to introduce improved seed into this district, I remember an experiment made in 1846 with New Orleans seed, in which we failed for two reasons; first, because we sowed too late in the season; second, because we did not burn the ground, so that our plants as they came up were attacked by a series of insects and blight which eventually destroyed them.

13. Again, during the present year, there has been an unfortunate failure in an attempt to introduce the seed sent down by Government last year. The seed arrived too late for

I.
India.

use in 1860, and was given out in March of this year, by which time it had all gone bad, so that not a plant has come up. This result has been particularly unfortunate, as Captain Magrath gave some of it to the hill tribes, and planted some of it himself at Kassalong, and instead of the usual poor crop produced by their own common seed, there was no crop at all for the people. The same result occurred in the gardens of several gentlemen in the station of Chittagong who tried it.

14. There now remains the question whether, as a political measure for the conversion of the hill tribes to more civilised and peaceful habits, it is expedient for the Government to establish a factory for the purpose of buying, cleaning, and screwing cotton. Taking that proposal in its strict terms, and with reference to what has been stated above as to the amount of cotton now produced, it would be a failure, as there is scarcely any cotton to be bought, and the price is too high to be remunerative to Government. If, on the other hand, the proposal is varied, so as to include the improved cultivation of cotton in the hills, I think that politically it is desirable to establish such a factory. This variation is, I beg to observe,

* I would suggest that a cotton plantation of 100 or 200 acres be attached to the Government Factory, that it be planted with Egyptian or New Orleans seed, cultivated after the most approved method.

only an adoption of the suggestion * contained in para. 10 of Mr. Paterson Saunders' letter, dated 12th July, to your address. But it seems to me to be more than ever necessary to teach the hill people an improved mode of cultivation at the expense of Government, in consequence of the discouragement which they received this year from using the seed supposed to be of a superior sort, and given to them by an officer of Government, but which turned out to be utterly worthless.

15. It appears to be the general opinion that the production of cotton in the present and past years has been greatly diminished, in consequence of the disturbed state of the hills. It is of the utmost importance to put an end to these disturbances; and if the Government are satisfied that it is not necessary to send any further retributive expeditions into the hills, I am of opinion that there can be no more certain mode of civilising and tranquillising the hill tribes than by the diffusion of Government money among them under the colour of introducing an improved cultivation of cotton by Government agency. Without the example of Government, I fear that there is no hope of any improvement in the cultivation of the indigenous seed, or of the introduction of any foreign seed. On the other hand, the cotton, as now produced, is of no commercial value, and it is not probable that the hillmen will be induced to cultivate it separately (*i. e.*, without an admixture of rice, &c.) unless the Government leads the way and shows that the risk is a safe one.

16. I presume that I need not attempt to say anything at present on the detail of the factory to be established by Government. I hope to go up to Kassalong with Captain Graham in a few days, as soon as the repairs of the gunboat are completed, and I can then see about the site. I believe that, by well-directed efforts this cold weather, things may be brought into train for the cultivation of cotton at the commencement of next rains, before which nothing effectual can be done, as it is too late now to prepare any ground this year. There will, therefore, also be time for the Government to send Mr. Paterson Saunders, or any other experienced person, to judge for himself if they think it necessary.

From *H. Ricketts, Esq.*, Commissioner of the Chittagong Division, to the Secretary to the Sudder Board of Revenue, Lower Provinces (No. 403); dated 26 July 1848.

Sir,

I HAVE the honour to forward the information called for by your circular letter of the 21st February, No. 4.

	CHITTAGONG.	BULLOOAH.	TIPPERAH.
<i>First Question:</i> What is the price of cotton freed from seed at the principal mart or marts in your district?	Rs. 9. 8. to 10 rupees per maund of 80 tolahs.	Cotton is not sold in this district.	Eight to ten rupees per maund, at 82 tolahs to the seer.
<i>Second Question:</i> At what price does the ryot sell his cotton, cleaned or uncleaned, and with or without advance?	It is grown only in the hill country on the frontier. The ryots sell their produce uncleaned at Rs. 2. 8. per maund.	Hardly any is raised. The ryot sells his produce uncleaned at three rupees; if he receives advances, at Rs. 2. 8. per maund.	Rs. 1. 8. to 2. 8. of hill cotton; none grown for sale in the plains.

	CHITTAGONG.	BULLOOAH.	TIPPERAH.
<i>Third Question:</i> What is the expense of cleaning cotton by the churka or foot-roller, or by any other method that may be in use?	Cotton is cleared by the churka by women; it is not easy to state the exact cost. A maund of cleaned cotton is produced from three maunds of uncleaned. Three maunds of uncleaned cost Rs. 7. 8.; a maund of cleaned, Rs. 9. 8. The difference, two rupees, covers the expense of cleaning and the profit of the middle man.	It is cleaned by the churka, at one rupee per maund.	No answer.
<i>Fourth Question:</i> What are the expenses of conveying cotton to the nearest coast for shipment.	Cotton is conveyed from Chittagong to Calcutta at five annas per maund. To Narain-gunge, the great mart near Dacca, for four annas per maund.	From Noacolley to Calcutta, at 12 rupees per 100 maunds, or 1 anna 11 pie per maund.	No answer.
<i>Fifth Question:</i> What is the average produce of cotton per beegah or acre?	About 34 seers per Bengal beegah (<i>i. e.</i> , 14,400 square feet); but it is grown in the hills only, and there inter-mixed with other things.	About 20 seers per Bengal beegah.	No answer.
<i>Sixth Question:</i> What is the quantity of land under cultivation with cotton, and to what extent is it probable that the cultivation could be carried in the event of an increased demand?	Unknown. It is grown in the hills only. Formerly a good deal was grown in the plains, now entirely discontinued. The crop grown in the hills may be estimated at 75,000 maunds of seed cotton, or 25,000 maunds of cleaned cotton.	There is hardly any cotton cultivated in the district; the lands are for the most part low and salt.	Very little produced, and that not for sale. The letter of the Tipperah Collector is very incomplete; but there being little, if any, cotton grown, it did not seem worth while to call for further returns.

2. The Collector's letters are submitted, Mr. Sconce's as far as paragraph 11. In the remainder of his letter he has introduced a discussion respecting the assessment of the hill country, which will be taken up separately.

3. The 25,000 maunds of cleaned cotton are produced in the hills of the Chittagong district, and there is a very extensive tract of wooded country throughout, which, if cleared cotton might be grown, there is no reasonable prospect of considerably increasing the cultivation.

4. This hill cotton is grown by thinly scattered wandering tribes, who, having burned the jungle in favourable spots, sow, in holes dug with a spade, cotton, rice, melons, &c. After two or three years, the soil being exhausted, they migrate to another place. Of course the land would continue productive if wood ashes and other suitable manure were supplied; but they prefer a change. They keep no cattle of late years; the cultivation is supposed to have decreased considerably, many families having gone to the hills of Arracan. I cannot see the remotest prospect of increasing this 25,000 maunds to 50,000 maunds by any conceivable measures; I will not, therefore, speculate on the possible advantages of fostering the hill cultivation.

5. As reported by Mr. Sconce, a good deal of cotton was in former times grown in the plains of Chittagong; and there are many thousands of acres in Tipperah fit for cotton; but without the price procurable shall greatly increase, the introduction of cotton cultivation in these parts is quite hopeless.

Six maunds per acre, or two maunds of clean cotton, or 160 lbs. I believe this to be much more than the average. Mr. Sconce also is more inclined to accept $1\frac{1}{2}$ maunds as the average, but our information is very imperfect.

6. A beegah of cotton is estimated by Mr. Sconce to produce two maunds of uncleaned cotton, which will sell for five rupees. The cultivation is more expensive than rice, the produce more precarious, the returns about equal; while chillies, hemp, kessaree, mustard seed, sugar-cane—all are more remunerating than cotton at existing prices: chillies and hemp yield to the cultivator 100 per cent. more than cotton when selling uncleaned at Rs. 2. 8. per maund.

7. Under these circumstances, no such measures as reduction of assessment can avail anything; were the whole land revenue of Chittagong abandoned, I do not believe it would increase the cotton cultivation by an acre; the ryots would still grow their red pepper and hemp.

8. The introduction of a plant which in an Indian soil will produce, say, even 300 lbs. per acre of clean cotton, or such decrease in the expense of cleaning, packing, and transport as shall allow of a considerably increased payment to the producer, or a great reduction in the value of other produce, may bring back the plant to the open country and good soils of Tipperah and Chittagong; but with a market rate of Rs. 2. 8. per maund of uncleaned cotton, and a produce of $1\frac{1}{2}$ maunds per beegah, other sorts of produce will not be abandoned for the sake of cotton in this part of Bengal.

REVENUE.—24 January 1862.

From *P. Saunders, Esq.*, Senior Commissioner to Report upon the Cultivation of Cotton, to *E. H. Lushington, Esq.*, Secretary to the Government of Bengal; dated Cawnpore, 12 July 1861.

I HAVE the honour to submit, for the consideration of his Honour the Lieutenant Governor of Bengal, the following communication on the subject of growing cotton in India, suggested to me by a perusal of his Excellency the Viceroy and Governor General in Council's reply to Mr. Haywood, the secretary of the Cotton Supply Association, and the subsequent official correspondence of his Honour the Lieutenant Governor regarding the establishment of Government factories in the Chittagong Hills, for buying, cleaning, and screwing hill cotton.

2. I would respectfully premise that if, in making this communication, I am stepping in any way out of my province, the deep interest I take in the successful cultivation of cotton in India will be my apology for so doing.

3. In the 8th paragraph of his Excellency the Viceroy and Governor General in Council's letter, the Cotton Association is reminded that the general testimony of all the best qualified observers, American as well as English, goes to prove that in the details of cultivation the native of India has little or nothing to learn from the agriculturists of other quarters of the globe, and that it is only in the gathering, cleaning, and transport of cotton, and not in its cultivation, that much improvement can be expected.

4. On this statement I have respectfully to remark, that however correct it may be with regard to agricultural produce generally, it is not so, as far as my experience goes, with regard to the cultivation of cotton, and as the adoption of this statement, and its application to future enterprise in cotton, governmental or private, would be attended with injurious consequences, I shall proceed to show in what respects it is not correct.

5. No product of the soil with which I am acquainted derives greater benefit, both in quantity and quality, from good cultivation than cotton, and none is more injured in both respects by slovenly and bad cultivation.

6. The Americans, who have studied for many years the cultivation of cotton, and have compiled volumes on the subject, plant their cotton in lines, four feet apart, and each shrub a foot and a half to two feet distant from each other. In this manner the cotton tree monopolises the nourishment of a good space of ground around it, while from the breadth of the lines there is a free ventilation of air, and the leaves absorb the atmospheric gases that are necessary to the vigorous growth of the tree, and the production of a large healthy pod.

7. The natives of these provinces sow their cotton broadcast, frequently with other crops, and thus the cotton trees are crowded together, oppressed by other crops, have but a small share of the nourishment of the soil, and are nearly altogether deprived of the ventilation of air. The result is that the tree is stunted, the pods are small and few, the fibre of the wool is exceedingly weak, and the staple shorter than it otherwise would be. The Kookees in the hills sow their cotton also with heavy crops of sweet rice, Kookee potatoes, &c., and the result is the same.

8. To continue such a method of cultivation without an endeavour to improve it, and to teach the natives how to improve it, would, in my opinion, be fatal to the successful cultivation of cotton on this side of India.

9. His

9. His Honour the Lieutenant Governor, in proposing the establishment of Government factories in the Chittagong Hills, has very pertinently and happily alluded to the successful introduction of tea planting and its manufacture into this country, through the action of Government, but to make the parallel complete, the people must be taught to cultivate cotton as they were taught to cultivate tea.

10. I would, therefore, venture to suggest that a cotton plantation of 100 or 200 acres be attached to the Government factory, that it be planted with Egyptian or New Orleans seed, and cultivated after the most approved method.

11. The difference in the value of cotton cultivated as the Americans do, and as the natives do, is from 30 to 40 per cent., while the increase in quantity is as four to one.

12. All the care that we can bestow on the gathering, cleaning, &c., of cotton will not add one grain of strength to its fibre, or one line to the length of its staple. Good cultivation increases both.

13. By attaching a plantation to the Government factory, the native growers who brought their cotton for sale, would have an opportunity of seeing the superior method of cultivation, and learning the higher value of the cotton, and the increase of produce.

14. As in the case of tea, when Government largely distributed seed and seedlings, so also could good seed be distributed to the natives.

15. The same establishment required for the superintendence of the factories would, I imagine, suffice for the superintendence of the plantation.

16. On the above principle a company is about to be formed to cultivate and purchase cotton on the banks of the Gogra in Oude, and as the gentlemen of Lancashire have been specially invited to take shares, and as there can be no doubt that they will readily and gladly seize upon the opportunity thus afforded them of promoting the cultivation of cotton in India, there is every prospect of the company being soon established, and commencing its operations.

P. S.—I have spoken of my experience as to the relative values of good and badly cultivated cotton, and I think it will not be out of place if I give one example of it.

In the year 1828 I was deputed to purchase cotton in the province of Magdalena—Republic of New Granada, and I purchased many ship-loads. I dealt alone with the great hacendados or landowners, and purchased cotton of two qualities, but all grown from the same seed.

The first was sown by the Indians mixed with Indian corn, and sometimes broadcast in the forest, was collected by them and sold in the seed state to the hacendados, who ginned, cleaned, and packed it. For this cotton I paid on an average six dollars the quintal, or 100 lbs. weight.

The second was sown and cultivated with care by the hacendados themselves, and for it I paid on an average eight dollars the quintal. The first realized in Liverpool about 4*d.* a lb., the second realized about 5½*d.* a lb. The difference of such prices when we come to deal with millions of lbs. amounts to that which will either make or mar a great commerce.

Enclosure 2, in No 48.

(No. 477.)

From *W. Grey*, Esq., Secretary to the Government of India, to *E. H. Lushington*, Esq., Secretary to the Government of Bengal; dated Fort William, 24 January 1862.

Sir,

HAVING laid before the Governor General in Council your Letter (No. 1245 A), dated the 10th ultimo, I am directed to inform you that his Excellency in Council is not favourable to the proposal to establish a Government cotton farm and factory in the Chittagong Hills.

Home Department
Revenue.

2. The Governor General in Council does not think it necessary to enter into the question discussed by Mr. Saunders in the Letter referred to in the 3rd paragraph of your communication, whether the cultivators of cotton in India generally have or have not yet to learn the most beneficial modes of cultivation. Were it as fully established as Mr. Saunders believes it to be, that the natives of India require to be taught how to cultivate cotton, this would not, in the opinion of his Excellency in Council, form any argument in favour of the establishment of an experimental cotton farm by Government, as suggested by that gentleman. Experience has shown that the experimental cultivation of cotton by the Government, even though under the management of a "competent person selected expressly to conduct it," is sure to fail as a means of inducing the natives to improve their mode of cultivation and the quality of their produce. The reason of this is plain. The natives will not change their accustomed habits of cultivation unless they have before them the example of some one cultivating cotton on a different principle and deriving a profit from it. They know perfectly well that a Government experimental farm does not and cannot pay as a commercial speculation, and the example, therefore, affords them no encouragement.

I.
India.

3. The Lieutenant Governor admits, and it cannot be doubted, that "private enterprise would be the best means by which the experiment he has recommended could be tried;" but his Honour apprehends that no one in the present state of affairs in the Chittagong Hills is likely to attempt it. The Governor General in Council observes, however, that in paragraph 9 of your Letter the present feeling of the Hill tribes is represented to be very favourable, and it appears, as stated by the Board of Revenue, that there are Europeans now at Chittagong ready to encourage the production of cotton in the way in which encouragement can be most effectually given, viz., by purchasing it, if there should be any prospect of "profitable returns."

4. It is stated by Mr. Saunders in the Letter above referred to, that a company is about to be formed both to cultivate and to purchase cotton on the banks of the Gogra in Oude, and there is no reason why the same should not be done at Chittagong if the prospects of cotton cultivation there hold out a reasonable hope of profit. Chittagong is much nearer to the sea than Oude, and its soil and climate are at least as well adapted to the production of the best kinds of cotton as those of the Upper Provinces.

5. The Governor General in Council hardly supposes that the mere establishment of a Government cotton farm in the Chittagong Hills would have any good effect, politically speaking, upon the Hill tribes; and upon a full consideration of the subject he remains of opinion that the establishment of such farms, as well as of factories for cleaning and screwing cotton, at Chittagong or elsewhere, should be undertaken by private enterprise, aided by such facilities as the Government can furnish in the way of grants of land, police, roads, and other legitimate measures of assistance.

I have, &c.,
W. Grey,
Secretary to the Government of India.

— No. 49. —

Home Department—Revenue—No. 4 of 1862.

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir,

REFERRING to the correspondence noted in the margin, we have the honour to transmit, as freight by the present mail steamer, 50 copies of the cotton hand-book for Bengal, which has been compiled by Mr. J. G. Medlicott, in pursuance of our Resolution of the 22d July 1861.

To Secretary of State, No. 12, of 1861,
dated 25 January.

From Secretary of State, No. 25, of
1861, dated 8 October, para. 4.

We have, &c.
Canning.
H. B. E. Frere.
Cecil Beadon.
R. Napier.
S. Laing.
W. Ritchie.

Fort William, 5 February 1862.

— No. 50. —

From *W. Grey*, Esq., Secretary to the Government of India, to *J. S. Medlicott*, Esq., Simla, (No. 1661) ; dated 23 August 1861.

You will have been made aware that the Governor General in Council has been pleased to select you to give effect in the Presidency of Bengal, to the intention of Government signified in the Resolution* published in the supplement to the Calcutta Gazette of the 24th ultimo, namely, that the records of each Government regarding the production of cotton in India should be placed at the disposal of some gentleman able and willing to undertake a careful analysis of their contents, and to publish the result within a reasonable period in a form calculated to be useful as a guide or hand-book to persons who may be desirous to embark in cotton undertakings in this country.

2. Such Parliamentary Papers and books on the subject, as are immediately available, have been already despatched to your address at Simla, and I am desired by the Governor General in Council to express a hope that you will be able

* A copy of the Resolution accompanies this letter.

able to deal with these at once, so as to be free to come down to Calcutta by the end of September, and take in hand other papers which may then be forthcoming. On arriving in Calcutta it is desired that you should apply yourself continuously to the work until it is completed.

3. It is the intention of his Excellency in Council to award a grant of 4,000 rupees from the public revenues for the compilation of the work which has been entrusted to your hands.

— No. 51. —

From *W. Grey*, Esq., Secretary to the Government of India, to *E. H. Lushington*, Esq., Secretary to the Government of Bengal, No. 1591; dated the 23d August 1861.

WITH reference to the Resolution* of the Governor General in Council published in the supplement to the "Calcutta Gazette" of the 24th ultimo, pp. 434 and 435, I am directed to inform you that Mr. J. S. Medicott, an assistant in the geological survey, has been selected by the Governor General in Council to prepare the compilation therein referred to, for the use and guidance of those interested in the cultivation of cotton in India.

*Dated 22 July
1861.

2. I am directed to request that instructions may be given to collect from the records of the Government of Bengal, and of the Board of Revenue, all correspondence relating to the subject of cotton cultivation in Bengal, which may not have been already published by Parliament, or otherwise, and to place it at the disposal of Mr. Medicott, who will be in Calcutta probably by the end of September.

3. You are requested under the orders of the Honourable the Lieutenant Governor to issue the necessary instructions to the Public Works Department, the Surveyor General and the Customs' authorities, to comply with any requisition for assistance which Mr. Medicott may find it necessary to make in furtherance of the duty entrusted to him.

— No. 52. —

From *W. Grey*, Esq., Secretary to the Government of India, to Sir *George Couper*, Bart., C.B., Secretary to the Government of the North Western Provinces (No. 1662); dated 23 August 1861.

WITH reference to the Resolution* of the Governor General in Council, published in the supplement to the "Calcutta Gazette" of the 24th ultimo, pp. 434 and 435, I am directed to inform you that Mr. J. S. Medicott, an assistant in the geological survey, has been selected by the Governor General in Council to prepare the compilation therein referred to, for the use and guidance of those interested in the cultivation of cotton in India.

*Dated 22 July
1861.

2. I am directed to request that instructions may be given to the Board of Revenue at Allahabad to collect from their records all correspondence relating to the subject of cotton cultivation in the North Western Provinces, which may not have been already published by Parliament or otherwise, and to place it at the disposal of Mr. Medicott when he passes through Allahabad, which he may be expected to do about the end of September; Mr. Medicott will probably find it convenient to devote a day or two to the examination of the papers at Allahabad, with the view of selecting such of them as he may wish to bring down with him to Calcutta. The papers brought down will be returned to Allahabad after Mr. Medicott has completed his task.

3. I am desired to add that it will be very advantageous if the Board will be good enough to facilitate Mr. Medicott's examination of the correspondence, by causing all papers which are obviously unimportant to be separated from the bundles.

I.
India.

— No. 53. —

Home Department—Revenue—No. 5, of 1862.

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir,

REFERRING to the second paragraph of our Despatch No. 17, dated the 1st October 1861, we have the honour to forward the accompanying copy of a letter from the Secretary to the Government of the North Western Provinces, No. 177A, dated the 27th ultimo, communicating the remarks of the Honourable the Lieutenant-Governor, on Mr. P. Saunders' report relative to the cotton-growing districts of the Doab.

We have, &c.

Canning.

H. B. E. Frere.

R. Napier.

W. Ritchie.

Fort William, 27 February 1862.

Enclosure in No. 53.

From Sir *George Couper*, Bart., C.B., Secretary to the Government of the North Western Provinces, to *W. Grey*, Esq., Secretary to the Government of India, (No. 177A, dated Camp Ghatumpore, 27 January 1862.)

As required by your letter No. 1866, dated the 16th September last, the Honourable the Lieutenant Governor desires me to communicate to you the following remarks on Mr. P. Saunders' report relative to the cotton-growing districts of the Doab.

2. Mr. Saunders had previously to the receipt of your letter, favoured the Lieutenant Governor with a copy of this report, but as it was not addressed to this Government, no action was taken upon it, except in regard to the remarks on the Doab canals, as will be noticed below.

3. It appears to the Lieutenant Governor, that Mr. Saunders has conducted his inquiries with much diligence, and with an earnest desire to ascertain the real truth on all points; that he has drawn the conclusions which are expressed in his report with fairness and impartiality, and that the suggestions which he has offered are, for the most part, distinguished by good sense, though, possibly, open to objection on grounds not always within his knowledge or cognizance as a "Commissioner to report on the Cultivation of Cotton."

4. It is hardly necessary that the Lieutenant Governor should dwell upon those portions of the report which relate to the area, population, soil, and climate of the Doab districts, or to the "past trade in cotton." There is no doubt that there is nothing in the nature of the soil, or in the conditions of the climate (in ordinary seasons), to oppose the growth of cotton to any extent that may be desired; and of this, there can be little better proof than the fact, which the inquiries of Mr. Saunders have established, that, before the slave-grown cotton of America obtained possession of the English market, the crop was extensively cultivated in the North Western Provinces, and a large export trade in this article existed. Mr. Edmonstone can remember the time when Kalpee had hardly ceased to be a great entrepôt, and it is only within the last two months that he has seen, in the great buildings still standing at that place, tangible evidence of the magnitude to which the cotton trade had grown. There is store-room for hundreds of bales, and there is space enough, and to spare, in the buildings still existing for cotton screws, and for all the operations of picking, cleaning, and packing.

5. What once existed, it requires only the same inducements to reproduce. The failure of the demand for Indian cotton, and the consequent fall in prices, of course affected the production, and cotton has given way to cereals, sugar-cane, &c., for which a ready market is always at hand. With the revival of a real and constant demand for the article, its cultivation would, without doubt, be resumed, and there is hardly a limit to the quantity that might be supplied with reasonable encouragement and assistance, and enterprise on the part of those who are interested in the trade.

6. As to the best means of stimulating the production of cotton, and improving the produce, the opinion of the Lieutenant Governor entirely coincides with that which Mr. Saunders has recorded in the 7th paragraph of his report. The European settler, or the European agent of the capitalist, will gain no advantage by possessing himself of land
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on whatever tenures, and himself undertaking the cultivation of cotton. He must, after all, employ the native agriculturist, who will have less interest in the crop than if it were his own, and will have no scruple whatever, as Mr. Saunders says, in filching as much of it as he requires for his own use, or for the use of his family, and even of his friends. He will take little or no trouble in the agricultural processes, and still less in protecting the crops when grown, from spoliation, unless he sees his interest in so doing. But the presence of an European settler in a cotton-growing district would be most valuable in creating a local market for the produce; in ensuring its ready sale, and an immediate return to the producer; in improving the cultivation perhaps, and certainly the picking and cleaning of the cotton; and on the use of appliances for screwing and packing it for export.

7. That there are no obstacles to the settlement of Europeans in these provinces is fully established by the inquiries which Mr. Saunders has directed to this point. Thirty years have gone by since the Lieutenant Governor entered these provinces, being in the first instance appointed to the district of Ghazepore, in which at that time even European planters were settled. Since that, he has served in various districts of the North Western Provinces, in which, or in the districts adjacent thereto, Europeans holding lands or carrying on trade were to be found; and he is glad to have the opportunity of stating his belief, that their presence was beneficial, their conduct towards the native population exemplary, and the uprightness of their dealings with the people about them unimpeachable. The Lieutenant Governor is fully persuaded, that every district officer in these provinces will gladly welcome to his district as many European settlers of respectable character as can find occupation for their capital and their energies, and will give to them all the encouragement and assistance which they can reasonably expect to receive.

8. The Lieutenant Governor's conviction is that, in a political point of view, nothing but good can result from the residence of Europeans in the interior, whether in the character of landowners, of planters, or of merchants. The hands of the district officer must be strengthened by the presence, in different quarters of his charge, of gentlemen whose good-will to the Government cannot be doubted; whose means of obtaining correct information as to the feelings and doings of the people around him are considerable; and whose assistance can be confidently looked for, not only in dealing with troubles and difficulties that may arise, but in carrying on local improvements in their neighbourhood. Many of these gentlemen have become members of the District Road and Ferry Fund Committees in these provinces, and more recently some of them have been appointed honorary deputy magistrates with jurisdiction in the pergunnahs in which they reside.

9. On the other hand, there is no reason to suppose that the residence of Europeans in the interior of the districts is in any way unacceptable to the people of the North Western Provinces. That these must benefit, more or less, by a larger circulation of money which will always follow upon the employment of European capital in their neighbourhood, to whatever purpose directed, is certain; that they are treated with consideration in their intercourse, and with liberality in their business transactions, with Europeans, may be inferred as well from the rareness of complaints, and the infrequency of litigation, as from the tenor of the several reports regarding the production of indigo in these provinces, which were sent last year to the Calcutta Commission, of which Mr. Seton-Karr was president. Indeed, if there could be any doubt upon the point, it would be removed by the consideration that the interests of the Europeans themselves would be injured, and the success of their undertakings, whatever they might be, would be imperilled by any oppression, ill-treatment, or unfair dealing on their part. The hostility of the people around them would be excited, the authorities would be appealed to, and the law would be enforced promptly.

10. The Lieutenant Governor would be glad to see half-a-dozen European settlers of enterprise and respectability in every district of these provinces.

11. The next point, to which Mr. Saunders adverts, is the expediency of "a contract law to punish criminally fraudulent breaches of contract." The present position of this question renders it unnecessary for the Lieutenant Governor to offer any remarks on it. He will only say that, though the action of the Civil Courts under the new procedure code is much more prompt and effective than it used to be, he would have unhesitatingly advocated the enactment of a law to make fraudulent breaches of contract criminal, had the question been still an open one. As it is understood that a Bill on the subject is about to be brought before the Council for making laws and regulations, its action may be awaited.

12. Referring now to the 13th, 14th, and 21st paragraphs of Mr. Saunders' report, I am desired to observe that the opinions of the Lieutenant Governor on the subject of the "Redemption of the Land Tax" and the "Sale in fee-simple of Waste Lands," were communicated in a Minute which was forwarded to the Government of India in May or June 1860; and that further discussion is barred by the Resolution No. 3,264, dated 17th October last, in which the views and the instructions of the Government of India on both these important subjects have been set forth. I am to add, however, that the Lieutenant Governor does not share in Mr. Saunders' expectation, even if "a fair demand for cotton from England springs up;" that these waste lands will be used largely for the

I.
India.

cultivation of cotton at least for many years to come. For, 1st, the available waste is for the most part covered with jungle or forest, and the clearing will be a work of time, involving considerable outlay. 2nd, there will be a heavy expense and some difficulty in settling cultivators on the tract, and the first object will be to grow food for their consumption, as will be necessitated by the distance of markets. 3rd, the waste will probably be without the means of irrigation essential to the certain production of first-class cotton crops. 4th, the tract will be generally distant from any roads, and these will need to be provided before the produce can be removed from the site of growth. 5th, though the spoliation may be less, there will be no more care in the agricultural processes unless the cultivator be made to see his interest in the production of a plentiful crop, or unless the European supervision be such as it can hardly be without a very large expenditure. Here, as elsewhere, the Lieutenant Governor thinks the function of the European will be to encourage the cultivation by low rates of rent, or by advances, or by ensuring a ready sale of the produce as may be, and by improvements in the way of cleaning, packing, &c.

13. As regards Mr. Saunders' remarks on the "tenure of lands in the North Western Provinces," and his advocacy of a permanent settlement, the Lieutenant Governor prefers to postpone the expression of his views, until he shall be in a position to do so in connexion with Colonel Baird Smith's Report, which has been referred for his consideration with your letter No. 2033, dated the 7th October last. It appears to him, however, that the evils supposed by Mr. Saunders to arise from the system of periodical settlements of the Land Revenue in these provinces have been somewhat, though of course unintentionally, exaggerated, and that he is mistaken in assuming that the desire and the object of the Government in every re-settlement is to increase the revenue. On these two points a few remarks may not be out of place.

14. When we first acquired possession of these provinces, now nearly 60 years ago, quinquennial settlements of the Land Revenue were instituted. Subsequently the period was extended to ten years. These settlements were formed without measurement of area, and, it is believed, without much independent inquiry, and the assessments were little better than mere guess-work, guided, in some measure perhaps, but very imperfectly, by Kanoongoes' estimates and untrustworthy records of village collections. Since 1833 assessments have been made only after professional survey, and interior measurement of the area of every village, and from the very first (as the Lieutenant Governor can himself testify, having entered the Settlement Department in 1832,) the principle has been inculcated that enhancement of the revenue is by no means the chief object to be looked to, but rather the equalisations of the demand at such moderate rates as shall ensure a fair profit to the proprietors, and a punctual realisation of the Government revenue.

15. There can be no doubt whatever, it is presumed, that notwithstanding the pressure of a system which Mr. Saunders pronounces to be "injurious to the country," these provinces are a garden as compared with what they were in 1803; and that, if, when they first came into our possession, we had given a permanent settlement, the Land Revenue would have been little more than half what it is now, while the sources of indirect revenue would have been little more abundant. It is certain that, notwithstanding the pressure of this "injurious, unjust," and impolitic system, these provinces have thriven; that barren lands have been very extensively brought into cultivation; that, trusting perhaps to the known moderation of the Government, the landholders have sunk numberless wells; and it may be deduced from these facts that the reluctance to make improvements is not so great in point of fact as Mr. Saunders has represented; and the apparent anomaly may be explained without much difficulty, even though it be admitted, as the Lieutenant Governor does admit, "that, when a district approaches to within five or four years of the expiration of the settlement, all improvement ceases." This is quite true; but, when, immediately on the conclusion of a settlement, the landholder sees before him a guaranteed fixity of demand for 30 years, he has no hesitation in taking canal water, or in digging wells, or in bringing new lands under the plough, because any possible enhancement of the demand upon him is so distant, that, as he knows well, the profits to be derived from the introduction of these improvements, and the extension of cultivation, will repay his capital, even if it do not repay it twice over, before the period of re-settlement shall come round—and if, at that period, the Government demand should be increased, his improved assets will be sufficient to meet it, and to give to him a fair profit still; while, in the currency of the previous settlement, he will have recovered the whole of his outlay at the least, and will, in all probability, have obtained a larger return.

16. Statistical facts alone, which are obviously unattainable, can settle the question as to how far the progress of the North Western Provinces has been retarded by the system of periodical settlements, as compared with the prosperity of Bengal under a permanent settlement; but the Lieutenant Governor hazards the opinion that improvement would have advanced with little more rapidity than it has done had a permanent settlement of the Land Revenue been given in 1803, and that, man for man, the agriculturist of the North Western Provinces is at least on a par in his circumstances with him of Bengal. The proprietary body in the North Western Provinces cannot be compared with the landholders of Bengal in respect of wealth and substance, but this is not due so much to the difference of the settlement system, as to the fact that the former are the actual hereditary owners of the soil, occupying it, in infinitesimal portions, according to ancestral right or local custom, while the latter are nothing more or less than the amils who collected revenue under the old Mahomedan Government from vast tracts of country, and were recognized as proprietors

prietors thereof under the permanent settlement. Whether these latter have ever expended capital in the improvement of their estates, or whether their prosperity has grown with the natural growth of the population, and is due as much to the luxuriant productiveness of the soil as to any outlay of money, remains to be proved.

17. Mr. Saunders hints the permanent settlement to be the source of all progress in Bengal, and that the system of periodical settlements is the root of much evil in the North Western Provinces; but he has omitted to advert to the distinctive features of the two sections of the Presidency: the one with a rich soil, with a teeming population, with large and constant demands for produce, whether for home consumption or for export; with unlimited water carriage for its conveyance to the places of consumption, or to the ports of export; and, lastly, with a climate in which the periodical rains never fail: the other with a light soil which, though productive under irrigation, is nearly barren of produce without it; with a population falling little short probably of that in Bengal, and possibly with a local demand for produce little less, but at a great distance from any port, and with infinitely smaller and those more expensive means of reaching it; and, lastly, with a liability to "periodical droughts" * * "when there is an almost total failure of rain," and when "appalling desolation and famine" befall the people.

18. These are marked distinctions, and the justifiable inference is that, while the prosperity of Bengal may be traced to other causes than the permanent settlement which Mr. Saunders so strongly advocates, the North Western Provinces have progressed in spite of the system which he unequivocally condemns; that, while on the one hand, the great staple of Bengal (rice) is produced with no other watering than that which it receives from the never-failing periodical rains, and in Bengal the need of expending capital in providing for irrigation is not pressing; on the other the cereals, which are the staple of these provinces, can be but scantily produced without irrigation, which irrigation cannot be obtained, as a certainty, without a large expenditure of capital. The same may be said of sugar.

19. The Lieutenant Governor would not be understood to say that he is opposed to a permanent settlement in these provinces under certain conditions, the statement of which is reserved for a future occasion, as already stated. Times and circumstances have changed, and what would have been certainly premature in 1803 may very well be advantageous now. All that he desires to convey is that a permanent settlement is not a cure for every evil, and that the effect of the system of periodical settlements, which has obtained here in retarding improvement, has been such less in degree than Mr. Saunders implies.

20. It has been stated above that Mr. Saunders "is mistaken in assuming that the desire and the object of the Government in every resettlement are to increase the revenue." In the orders which have been from time to time issued by this Government, for the guidance of settlement officers, there is enough to show that the principle of moderation has always been inculcated. * "The object of the fiscal part of the settlement is to fix the demand upon the land" * * "within such limits as may leave a fair profit to the proprietors, and create a valuable and marketable property in the land." Then, after laying down full instructions for fixing the demand of the Government, the following cautions are conveyed: † "It is a more fatal error to over-assess than to under-assess. The Government will not test the settlement by the mere amount of direct revenue which it brings into the Treasury." * * "If the juma is less than it was before, the Government will be satisfied, if the reasons for the reduction are sound and sufficient:" * * "if he (the settlement officer) is in doubt which of the two jummas to fix, a high one or a low one, he should always incline to the latter. Over assessment discourages the people, and demoralizes them by driving them to unworthy shifts and expedients; and it also prevents the accumulation of capital, and dries up the resources of the country. Viewing the question simply in a financial light, an assessment which presses hardly on the resources of the people, is most injurious."

* Directions to settlement officers, paragraph 47.

† Directions to settlement officers, paragraph 61.

21. Again, when the settlements of the districts in these provinces began to fall in, and the district of Seharunpore was about to be re-settled, instructions, now known as the "Seharunpore Rules," were issued, and in these it is said that "the Government does not look for any total increase on the present demand, excepting, of course, as to fresh land brought into culture since the last settlement beyond the limits of the then assessed villages; or where there may have been a great rise in the rent value of land, caused by the growth of new large centres of consumption, or the like. The collector should aim rather at the equalization of the assessments."

22. Further, as to Mr. Saunders' remark, ‡ that the improvements made by the landowners, such as cultivation of barren and unassessed lands, construction of wells, &c., being taken into the calculation of assets for re-settlements, it may not be out of place to note that Regulation II. of 1819 provides for the assessment of lands which, at the period of the decennial settlement (in Bengal) were not included within the limits of estates for which a settlement was concluded with the owners; and in regard to the other point, construction of wells, &c., it is thought right to subjoin the following passages: the first from directions to settlement officers, the second from the Seharunpore Rules, which will show that in this respect also a caution has been enjoined: "Whenever the value of land has been much raised by the expenditure of capital in providing irrigation, locating labourers, or, in other modes, care should be taken, lest by too high an assessment an unfair tax be laid on the profits

I.
India.

* Directions to
settlement officers,
page 65.

profits of the capital, over and above the just rights of the Government to a portion of the net produce of the land.”* Again, in villages, the cultivation of which has been much extended since the settlement by the breaking up of new land, or the per-centage of irrigation increased by the sinking of new wells, or other improvements, the expenditure of capital must be allowed, and a moderate juma assessed†.

23. The Lieutenant Governor has thought it right to offer the foregoing comments on paragraphs 15 to 20 of Mr. Saunders’ Report, not with any intention of disputing the present expediency of converting the settlements of these provinces (subject to certain conditions) into a permanent settlement, for it is to that issue that the extension from time to time of the period of settlement has been gradually advancing; but with the desire to show that the system of these provinces has not been so injurious to progress, or the Government of these provinces so intent upon increasing the land revenue without regard to considerations of justice and of policy as Mr. Saunders would seem to represent. The Lieutenant Governor does not believe that the land in these provinces, taking them as a whole, is “heavily assessed;” and if it be, the fact is not due to the action of the Government which he has the honour to represent. If this Government has erred, it has been, Mr. Edmonstone thinks, very much more in the disruption of the old talookas, and the annihilation, by this measure, of the landed aristocracy that at once existed, than in any encouragement given to heavy assessments.

24. In regard to the “cultivation of exotic cotton,” the Lieutenant Governor does not feel himself competent to remark, never having given his attention to the subject, or experimentalised, as many others have done in growing it. There is no doubt that the fullest information on this point will be furnished to the Government of India from other quarters.

25. It has been stated in the 2d paragraph of this address, that the only part of Mr. P. Saunders’ Report, upon which the Lieutenant Governor thought proper to take action at once, was that relating to “the canals of the Doab.” This subject was considered in the Department Public Works, and the copy of a Letter (No. 3628 A, dated 30th November last), addressed to the Superintendent General of Irrigation, is enclosed. This letter, so far as it goes, expresses the Lieutenant Governor’s sentiments, and he is sanguine that the result of the discussion to which it will give rise will be the introduction of measures that will at least mitigate the corruption and the oppression complained of in connexion with canal management. That these evil practices will ever be entirely suppressed, until at least the morality of the people, who must be our instruments, more or less, is very greatly improved, Mr. Edmonstone does not believe, whatever may be the means used.

26. Mr. Saunders testifies, in paragraph 38, that “in the matter of roads there is no impediment whatever to the trade in cotton, so far as the roads in the Doab are concerned.” The Government of India are aware from my letter, dated the 29th March 1861, and its enclosures, and from separate correspondence in the Department Public Works, that the improvement of the internal communication in these provinces has been attended to by the Lieutenant Governor, and perhaps it may be needless to say more on this point than that in Rohilkund, in Bundelkhund, and in the Benares division, no less than in the Doab, the necessity of facilitating traffic has been kept constantly in view. It will be seen from the appendices to the Department Public Works Budget for 1862-63, now under despatch, that very large sums of money derived from the local funds will be applied to the construction, improvement, and maintenance of roads, and to the erection of numerous bridges in the several divisions of these provinces during the 12 months extending from the 1st September 1861 to the 31st August 1862.

27. The representations contained in the 39th paragraph of Mr. Saunders’ Report formed the subject of my separate letter, No. 45 A, dated the 8th of this month, in which you were informed of the inquiries about to be instituted under the Lieutenant Governor’s instructions. The depositions of Lalla Ram Buxsh and Radha Lall, which are enclosed in Mr. Saunders’ letter, dated 6th instant (just received under cover of your No. 239, dated 14th *ibid.*), will be forwarded to the magistrates of Cawnpore and Etawah, respectively, with a direction to examine the deponents, and to obtain from them any proof they can offer of their assertions, and of the particular incidents on which those assertions are founded; the result of all these inquiries will be fully reported in due course to the Government of India; but the Lieutenant Governor must not conceal his apprehension that he may have too hastily formed the conclusions communicated in my letter above referred to. It will be remembered that the requisition therein replied to was very urgent; and it may be observed that the Lieutenant Governor’s camp was distant from sources of information, and that no inquiry could be made without the certainty of disappointing the wishes of His Excellency the Viceroy in Council for an early report on the subject. Since that time the Lieutenant Governor has been led to doubt the correctness of his belief that cotton-carts are not commonly impressed. He has been told that, to enable troops to move, urgent indents for many scores of carts are not infrequently sent, at very short notice, to collectors; and that, in the execution of these, it does happen that even cotton-carts are seized, the bales being generally stacked by the persons in charge in the puraos alongside of

† Sheharunpore Rules, paragraph XXXVII. See also foot note to the above, being extract (paragraph 489) from a Despatch from the Honourable Court of Directors, No. 9, dated 13 August 1851.

of the road, until the carts shall be restored. This may or may not be confirmed from other parts of the country, and the Lieutenant Governor will await the issue of the investigations now in progress. It may, however, be observed that, as long as the civil authorities continue to be served with these urgent indents at the shortest notice, and are informed that the troops cannot move until the carts are furnished, so long there must be either impressment of carriage, or serious detention of troops on the line of march.

From Lieutenant Colonel *W. E. Morton*, Officiating Secretary to the Government of the North Western Provinces, Public Works Department, to Lieutenant Colonel *A. D. Turnbull*, Superintendent General of Irrigation, North Western Provinces, Roorkee (No. 3628); dated Camp Orai, 30 November 1861.

IN continuation of my docket, No. 2994 A, dated 4th ultimo, forwarding extract from a report by the Commissioner to inquire into the cultivation of cotton, I am directed to call your attention to the following observations which, by an oversight, were not communicated to you in the first instance.

2. Among the questions put by the Cotton Commissioner to Mr. Peters, a zemindar of Mynpooree, paragraph 24, is one to the effect whether complaints such as he, Mr. Peters, brought against the Canal Department were general in the district? To this the reply was, that such complaints were general, for "hundreds of petitions have been given by natives to the collector, detailing their grievances; but they get no redress."

3. This statement, the Lieutenant Governor believes, is as unfair as it is incorrect. His Honor feels certain that redress is never refused by officers of the Irrigation Department when grievances are proved. No doubt many complaints fall to the ground, either from deficiency of proof, or because those who prefer them subsequently fail to exert themselves to establish their cases.

4. The remedy proposed by the same zemindar for the grievances complained of, viz., that the distribution of canal water should be placed under district officers, is manifestly absurd; for district officers do not employ a more honest class of subordinates, grade for grade, than do canal officers, while the former certainly could not devote as much time to matters connected with irrigation as officers specially appointed for such duties.

5. The next evidence given by Mr. W. Martin, an indigo planter of Mynpooree. I am to notice particularly only the concluding portion of his last reply, in which he gives it as his opinion that the water rate for indigo and cotton is too high, being double of that for cereals. On this the Lieutenant Governor remarks that Mr. Martin naturally would desire to see the charge for watering indigo lowered; others no doubt are equally certain that the crops which they chiefly cultivate, rice, wheat, sugar-cane, or whatever it may be, are made to pay too high a rate for canal water. In point of fact, his Honor believes the whole of the canal water rates are extremely low as compared either with the average cost of well irrigation, or the more abundant yield due to that by canals.

6. Mr. Saunders states (paragraph 25) that the general result of many inquiries made in the Boolundshuhur and Allygurr districts was, that it was a common complaint among native cultivators that the canal officers were chiefly young men who have no consideration for the agriculturists, and the consequence is that many zemindars will not take water. But the Lieutenant Governor is not inclined to accept either of these statements. In regard to the former, his Honor observes, that one officer at least in every division, the superintendent, necessarily has ample experience, and, as a rule, it is believed that such officers, whose duties bring them almost daily into contact with native cultivators, do listen to complaints which appear to have any foundation.

7. As to the assertions that many zemindars do not take water, the Lieutenant Governor considers that it is effectually disproved by the experience gained on the Jumna canals. There, it is well known, it is not the demand, but the supply that is deficient, and we have no reason whatever for supposing that when the Ganges Canal has existed as long as those from the Jumna, and the benefits of irrigation become as widely known, there will not be an equal readiness to take water on the part of the cultivators within the districts through which it runs.

8. In the same paragraph Mr. Saunders gives it as the opinion of Hurpal, cotton dealer and zemindar of the Moozuffernugger district, and Hosein Ally Khan, a large landholder, that the lower establishment of the Ganges Canal is corrupt, and that Chowkeedars receiving a pay of 4 rupees per mensem make nearly ten times that amount. This charge, the Lieutenant-Governor fears, has too much truth in it; from the very circumstances of the case it would scarcely be otherwise. His Honor suggests for your consideration, that, pending the introduction of a better system of irrigation, under which the conservancy establishments of the canals may be almost, if not entirely, dispensed with, the large number of under-paid chowkeedars should be reduced. Such a reduction would admit of the pay of the remainder being so increased as to lessen the temptation to dishonesty and oppression now so powerful.

9. The remedy for the evils above referred to, which Mr. Saunders mentions in his 28th paragraph, viz., the supply of canal water on contracts, is the one that, his Honor believes,

I.
India.

is best calculated to effect the object in view. Such a system in one form was introduced by your predecessor, but it was at the outset opposed by difficulties which led to its partial modification. Contracts in another form, viz., with the average measurements of a certain number of previous years as their base, are being adopted on the Eastern Jumna Canal. It is not proposed on this occasion to discuss the respective merits of these two forms of the contract system. The question will shortly be brought forward in connexion with the 2d section of Colonel Baird Smith's Famine Report.

10. With reference to Mr. Saunders' 30th and 31st paragraphs, I am to observe that it does not by any means seem so certain, as that gentleman appears to suppose, that the plan of simply enhancing land rent in canal districts, and then giving water *ad libitum*, would answer.

11. In the first place, as shown on the Jumna Canal, water *ad libitum* is an impossibility. Any canal on which such a rule existed would, in times of scarcity, be dry far above its lower terminus. Restrictions on the quantity of water issued to any one cultivator, or to any one community, must be kept in view, if equal justice is to be meted to all who come within range of the canal's action.

12. Secondly, it is more than doubtful that all cultivators to whom canal water can be given will willingly agree to an arbitrary increase of land rent in lieu of the demands now made by the department, such increase being fixed without any knowledge of the requirements of each cultivator one year with another. Certainly on the Ganges Canal, in its present undeveloped state, such an innovation could result in nothing but a grievous failure.

13. Mr. Saunders (paragraph 32) alludes to the advantage to be derived by the abolition of measurements on the introduction of some system of contracts. Such a change would of course remove the whole of that large body of men who form the present measuring establishment, and to whom without doubt much of the extortions which now brings odium on the Canal Department is due.

14. But the Lieutenant Governor would point out that such a remedy would be only a partial one. Over and above the measuring establishments there are numerous subordinates attached to every canal, whose practices are quite as detrimental to the good name of the department. Of these the most prominent is the Conservancy Establishment already alluded to. It is for you to consider whether even irrespectively of the introduction of contracts, this establishment may not be diminished in numbers. One mode of doing this appears to be by inducing influential zemindars to become responsible for the safety of canal works, and the Lieutenant Governor desires that you will give this measure full consideration.

15. Adverting to paragraph 33, I am to observe that Mr. Saunders evidently was not aware that for nearly six months of every year the Superintendent General and Deputy Superintendent General are out on their tours of inspection, and that during that time they visit nearly the whole of the several canal districts. On these terms the officers named inquire into all cases of appeal brought before them, and give redress where it may be required, but of course it is chimerical to suppose that they can put a stop to the corrupt practices of the native establishments. The only practical remedy is that above suggested; viz., the diminution of the numbers of those who, with inadequate salaries, are placed in positions of great power for evil.

16. In conclusion, I am to request that, in submitting the report called for in my No. 2994A, you will prominently notice the various points referred to in this address.

— No. 54. —

Home Department.—Revenue.—No. 7, of 1862.

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir,

REFERRING to our letter, No. 1, dated the 7th of January last, we have the honour to transmit, for your information, the accompanying copy of a correspondence* on the subject of the remarks made by Mr. Paterson Saunders, in the 39th paragraph of his report on the production of cotton in the North Western Provinces, regarding the impressment of carts for the purposes of Government.

We

* From Government of Bengal, No. 27A, dated 7 January.
From Mr. P. Saunders, dated 6 January.
To Government North West Provinces, No. 239, dated 14 January.
From ditto, No. 45A, dated 8 January.
From ditto, No. 177A, dated 27 January, para. 27.
From ditto, No. 576A, dated 1 March, and Enclosure.

2. We have invited the opinion of the Lieutenant Governors of Bengal and the North Western Provinces, as to the advisability of enacting a law similar in its provisions to the Bill which was laid before the late Legislative Council in 1857, for the purpose of regulating the provision of carriage for troops on the march, and punishing unlawful impressment. This Bill, a copy of which we forward herewith, was not it seems proceeded with.

We have, &c.

Elgin and Kincardine.

H. B. E. Frere.

Cecil Beadon.

R. Napier.

S. Laing.

Fort William, 20 March 1862

I.
India.

Enclosure 1, in No. 54.

From *W. Grey*, Esq., Secretary to the Government of India, to *Sir George Couper*, Bart., C.B., Secretary to the Government of the North Western Provinces, No. 2510, dated 21 December 1861.

THE attention of the Governor General in Council having been drawn to the remarks made by Mr. Paterson Saunders in the 39th paragraph of his published report, regarding the impressment of carts for the wants of Government, I am directed to inquire whether the Honourable the Lieutenant Governor has any reason to believe that the complaint is well founded.

2. His Excellency in Council is desirous to receive a reply to this question at once, leaving the result of any inquiries which his Honour may think it proper to make on the subject, to be continued hereafter.

Enclosure 2, in No. 54.

From *W. Grey*, Esq., Secretary to the Government of India, to *P. Saunders*, Esq., Senior, Commissioner to Report on the Cultivation of Cotton, No. 2516, dated 23 December 1861.

REFERRING to the 39th paragraph of your Report, dated Roorkee, the 1st of September, in which notice is taken of an obstacle to the cotton trade, arising out of the impressment, for the wants of Government, of carts laden with cotton, I am directed by the Governor General in Council to request that you will be good enough to state to which of the cotton districts, or to what part of what districts your remarks on this subject especially apply, and also that you will furnish any specific information on the matter that may be in your possession.

Enclosure 3, in No. 54.

From *W. Grey*, Esq., Secretary to the Government of India, to *E. H. Lushington*, Esq., Secretary to the Government of Bengal, No. 4, dated 2 January 1862.

THE attention of the Governor General in Council having been drawn to some remarks made by Mr. P. Saunders in a recent report regarding the impressment of carts for the wants of Government, I am directed to forward herewith a copy of the remarks in question, and to inquire whether the Lieutenant Governor has reason to believe that the practice of pressing carts for the service of Government still prevails in the Lower Provinces.

2. The Governor General in Council is desirous to receive an immediate reply to this question, leaving the result of any inquiries which the Lieutenant Governor may think it necessary to make on the subject to be continued hereafter.

I.
India.

Enclosure 4, in No. 54.

From *E. H. Lushington*, Esq., Secretary to the Government of Bengal, to *W. Grey*, Esq., Secretary to the Government of India,—No. 27A, dated 7 January 1862.

I AM directed to acknowledge the receipt of your letter No. 4, dated the 2nd instant, and to state in reply that the Lieutenant Governor has no reason to believe that there is any impressment of carts for Government purposes in the lower provinces, except on the occasion of the march of troops, for whom carts may be impressed under regulation XI. of 1806. The Lieutenant Governor is satisfied that in no other cases are carts impressed for Government purposes. The system is a source of vexation when troops march, but the Lieutenant Governor does not believe that it is ever abused by authority in these provinces to the extent of seizing and unloading laden carts in progress. Such an abuse in these provinces could not occur without complaints being made, which would lead to inquiry and redress.

Enclosure 5, in No. 54.

From *P. Saunders*, Senior, Esq., Commissioner to Report on the Cultivation of Cotton, to *W. Grey*, Esq., Secretary to the Government of India,—dated Camp near Burrumdeo, 6 January 1862.

I HAVE the honour to acknowledge receipt of your letter, No. 2516, requesting me to state, for the information of his Excellency the Governor in Council, in which of the cotton districts, or to what parts of what districts, my remarks on the subject of impressment of carts for the wants of Government especially apply, and also to furnish any specific information in the matter that may be in my possession.

2. In reply, I have to inform you that every native cotton merchant, through the length and breadth of the Doab, made the complaints stated by me in the 39th paragraph of my report. I was desirous in that report not to overload it with evidence, and I drew my general conclusions from the evidence taken by me. I will now give a few extracts from the book in which that evidence is recorded:—

Lalla Ram Buksh Goomashta, of Cheya Sook Buxeram, merchant and banker of Cawnpore, dated 1st July 1861. *Question 46.*—Are there any obstacles other than physical to your trade in cotton?

Answer.—None whatever. We require nothing from Government. We only want buyers, and we will supply as much cotton as they require. The only drawback to our trade is the impressment of our boats and carts by public officers. If this impressment were prohibited in the case of cotton, it would give a great impetus to our trade.

Radha Lall, merchant and banker of Etawah, and a large dealer in cotton, dated 25th July 1861. *Question 66.*—Are there any obstacles to your trade in cotton?

Answer.—A great grievance is the seizure of our cotton carts by Government. They are seized *in transitu*, and the cotton thrown out on the road, and this happens very frequently.

3. The cotton merchants of all the principal marts in the Doab made a similar statement to me.

4. When troops are being moved through the districts of the Doab, the civil authorities are called upon to furnish carriage, and they can only do so through the tehseeldars or native officers, and no system exists by which the abuse of power entrusted to the chowdries or chuprassies can be checked.

5. Since writing my report, the Commissioner of the Meerut Division has suggested to me a plan of registration and numbering of carts in all the districts, and that the owners of the carts should be called upon in their turn to supply the wants of Government. The suggestion appears to me good, as it would put a stop to the indiscriminate seizure of carts, and especially carts laden with produce from which the chuprassies under the present system derive their gains.

6. The people do not object to furnish the Government with empty carts when they receive due notice, for they are well and punctually paid. It is the seizure of their loaded carts which they complain of most bitterly.

P.S.—I am not in possession of any specific information on the subject, nor did I think of obtaining any, as the evil is general, notorious, and not denied by the civil authorities.

Enclosure 6, in No. 54.

From *W. Grey, Esq.*, Secretary to the Government of India, to *Sir George Couper, Bart.*, C.B., Secretary to the Government of the North Western Provinces,—No. 239, dated 14 January 1862.

WITH reference to my letter, dated the 21st ultimo, to which I am to intimate the Governor General in Council is desirous of receiving an early reply, I am desired to forward, for the information of his Honour the Lieutenant Governor, the accompanying copy of a communication received from Mr. Saunders on the subject of impressment of carts in the North Western Provinces.

Enclosure 7, in No. 54.

From *Sir George Couper, Bart.*, C.B., Secretary to the Government of the North Western Provinces, to *W. Grey, Esq.*, Secretary to the Government of India,—No. 45 A, dated Camp Mowranipore, 8 January 1862.

I AM directed to acknowledge the receipt of your letter No. 2,510, dated the 21st ult., inquiring whether the Lieutenant Governor has any reason to believe that the complaint made in the 39th paragraph of Mr. Paterson Saunders' published report, regarding the impressment of cotton carts for the wants of Government, is well founded; and in reply to submit as follows:—

2. Mr. Saunders' remark involves, perhaps, both the impressment of carriage generally and the impressment of carts laden with cotton specially.

3. As regards the first point, the Lieutenant Governor's belief is, that troops, marching in the course of relief or otherwise, are almost entirely dependent for their means of moving on the collectors; the commissariat being unable, his Honour believes, without the aid of these officers, to provide the necessary quantity of carriage. The collectors, when so called upon, are required by Section 3, Regulation XI. of 1806, to provide among other things, "whatever carts and bullocks may be indispensably necessary to enable the troops to prosecute their route;" and they are also authorised to apply for assistance to the nearest "police officer," in procuring what is required. By section 8 also of the same regulation, police officers are required to assist persons travelling, whether on public service or on private affairs, in procuring carts and bullocks, &c., but with this distinctive limitation (which does not appear in Section 3) that these shall not be kept for private use, but for hire, and shall not be exclusively appropriated to the purposes of agriculture.

4. The Lieutenant Governor has no reason to believe that, ordinarily, the authority thus legally belonging to the collectors of districts is exceeded, but his Honour must at the same time admit the probability that the "native functionaries," employed in the collection of carriage for the use of the troops, will, as Mr. Saunders expresses it, endeavour at least "to make a harvest out of the operation." Every effort, his Honour is persuaded, is made to prevent this by entrusting the duty to the *tahseeldars* and other respectable officers, but these, on their part, are compelled to use the service of *peons* and other underlings, whom it is very difficult, almost impossible, to restrain from accepting a rupee here and a rupee there, for releasing the cart of a man who can afford to pay, and, in place of it, seizing that of another who cannot.

5. Some instances, however, of impressment, more special in its character than the above, have been brought to the Lieutenant Governor's notice. These were cases in which soldiers or recruits travelling up the country on the bullock train, finding the cattle tired out, were represented to have forcibly seized bullocks; or, in which it was ascertained that persons in the employ of the Post Office department had seized cattle, because the relays along the road were insufficient for the service of the bullock train. The correspondence relating to these cases (of which copies will be forwarded as soon as possible from Allaha-bad) will show that the Commander in Chief was urgently addressed as to the necessity of providing for the vigilant control of recruits and soldiers passing along the road; and that the Postmaster General was peremptorily required to put a stop to the seizure of cattle by his subordinates for the use of the bullock train.

6. As regards the seizure of cotton carts specially, the Lieutenant Governor begs to express his conviction that there are very few, if any, native functionaries who would venture to do what Mr. Saunders describes. The statement is *primâ facie* improbable. With "a string of cotton carts" there will always be one or more *chowkeedars* employed on the part of the consigners, besides numerous drivers, and it is hardly to be believed that these would submit either to have the carts unladen, the cotton thrown on the ground, and the carts taken away by two or three *chuprassies*, or to pay for the exemption. It may be that such threats are occasionally used by the unprincipled people into whose hands authority more or less unavoidably falls in this country, but it is an empty threat, which they would not attempt to enforce, or dare to attempt if these in charge of the cotton carts

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carts should do their duty to their own masters. The apathy of the people very often favours the oppression, of which so many complaints are heard, and, if they will not take the trouble to protect themselves, it must be difficult for the Government to do so.

7. Again, it is to be observed on this point, that cotton carts seldom or never travel except on great thoroughfares. The cotton is collected from the interior at entrepôts, as Hatrass, Agra, Kalpee, &c., and is then packed in the great bales, afterwards piled, with considerable skill, on the carts which are seen slowly winding their way to the eastward under their enormous burdens. It is the last thing to be expected that, on a thoroughfare like the Grand Trunk Road, with police posts at short distances, with numberless villages hard by, and witnesses at every yard, a chuprassee or two, or any other native functionary should, in defiance of all risks, attempt to seize "a string of cotton carts," and "if not bribed on the spot, throw the cotton on the road." An occurrence of this very remarkable character could not escape observation, and could not be concealed from the district officer.

8. The Lieutenant Governor's conviction is, that no public functionary in these provinces would even think of forcibly seizing and unlading a cotton cart, and there is no reality in this supposed "obstacle to the trade in cotton." But an extract (paragraph 39) from Mr. Saunders's report will be circulated to all district officers, with a direction to report whether such an incident as that described therein has ever come to their knowledge.

9. The result of these inquiries will be reported.

10. Meanwhile a printed copy of the rules and orders by which the district officers in these provinces are guided in supplying cattle, &c., to troops, is forwarded for the information of his Excellency the Viceroy and Governor General in Council.

Enclosure 8, in No. 54.

EXTRACT Paragraph 27 of a Letter from the Secretary to the Government of the North Western Provinces, No. 177 A, dated 27 January 1862.

Para. 27. THE representations contained in the 39th paragraph of Mr. Saunders' report, formed the subject of my separate letter No. 45 A, dated the 8th of this month, in which you were informed of the inquiries about to be instituted under the Lieutenant Governor's instructions. The depositions of Lalla Ram Buksh and Radha Lall, which are enclosed in Mr. Saunders's letter, dated 6th inst. (just received under cover of your No. 239, dated 14th *ibid.*) will be forwarded to the magistrates of Cawnpore and Etawah respectively, with a direction to examine the deponents, and to obtain from them any proof they can offer of their assertions, and of the particular incidents on which those assertions are founded, the result of all these inquiries will be fully reported in due course to the Government of India; but the Lieutenant Governor must not conceal his apprehension that he may have too hastily formed the conclusions communicated in my letter above referred to. It will be remembered that the requisition therein replied to was very urgent; and it may be observed that the Lieutenant Governor's camp was distant from sources of information, and that no inquiry could be made without the certainty of disappointing the wishes of his Excellency the Viceroy in Council for an early report on the subject. Since that time the Lieutenant Governor has been led to doubt the correctness of his belief that cotton carts are not commonly impressed. He has been told that to enable troops to move, urgent indents for many scores of carts are not unfrequently sent, at very short notice, to collectors, and that in the execution of these, it does happen that even cotton carts are seized, the bales being generally stacked by the persons in charge in the puraos alongside of the road, until the carts shall be restored. This may or may not be confirmed from other parts of the country, and the Lieutenant Governor will await the issue of the investigations now in progress. It may, however, be observed that, as long as the civil authorities continue to be served with these urgent indents at the shortest notice, and are informed that the troops cannot move until the carts are furnished, so long there must be either impressment of carriage, or serious detention of troops on the line of march.

Enclosure 9, in No. 54.

From Sir George Couper, Bart., C. B., Secretary to the Government of the North Western Provinces, to W. Grey, Esq., Secretary to the Government of India,—No. 516 A, dated Allahabad, 1 March 1862.

IN reply to your letter, No. 239, dated 14th February, and in continuation of the 27th paragraph of my letter, No. 117 A, dated 27th *idem*, I am desired to forward, for the information of the Government of India, the accompanying copies of the depositions of Lalla Ram Buksh and Radha Lall, who were named by Mr. Saunders as witnesses of what he had described in the 39th paragraph of his report regarding the impressment of cotton carts in transit.

2. It will be seen that the former, while corroborating Mr. Saunders' assertions to the fullest extent with respect to a transaction which occurred prior to the mutinies, states that none of his carts have been seized since. Radha Lall, too, deposes that he referred only to the period when peace was being established, and when, of course, it was absolutely necessary to impress carriage for the troops without regard to private interests.

3. The Government of India will be again addressed upon this subject, as soon as the replies to the inquiries which have been set on foot among all the district officers throughout these provinces shall have been received.

STATEMENT of *Lalla Ram Buksh*, of the firm of Cheya Sook and Buxeram.

ONE year before the mutinies, an European regiment was suddenly ordered to march. From 15 to 20 of my cotton carts were seized. The cotton was thrown off and the carts taken to the camp by a sepoy and police burkundaz. Eventually, about half of them with the troops, and the other half were left behind on the ground, and after a detention of about eight or ten days, were again despatched with cotton. About 200 carts were seized on this occasion. A great portion of them were laden with cotton, wheat, ghee, &c. None of my cotton carts have been seized since the mutinies. If there is a sudden demand for carts for troops, laden carts are liable to be seized. I have never given anything to the burkundazes to ensure my gharrees going free, and do not know that others have done so.

No boats have, as far as I am aware, been seized within the last two years; but before the Commissariat officers, through the medium of their gomashtha, used to do so. Now stores mostly go by rail.

Cawnpore, 13 February 1862.

G. E. Lance, Magistrate.

DEPOSITIONS of *Radha Lall*, Mahajun of Etawah, made before me this 12th day of February 1862.

ON the 25th July last, in reply to a question put to you by Mr. Saunders, do you recollect having stated as follows:—"A great grievance is the seizure of our cotton carts by Government; they are seized in transit, and the cotton thrown out on the road, and this happens very frequently"?

Answer.—I do.

Question.—Have you any proof to offer of your assertions—can you cite any particular incidents in which these assertions are founded?

Answer.—Within the last two years I can cite no instance of carts being seized; I refer particularly to that period when peace was being established after the mutiny. Cotton was at that time being sent down in large quantities in gharrees, boats not being procurable; and then it was a subject of frequent complaint that the cotton carts were seized for the troops, and the contents thrown off on the road. I do not hear such complaints nowadays, and I do not refer to any one district in particular; it was a general complaint in those days.

A. R. S. Pollock,
Officiating Collector and Magistrate.

Enclosure 10, in No. 54.

(No. 1472.)

From *A. M. Monteath*, Esq., Under Secretary to the Government of India, to Sir *George Couper*, Bart., C.B., Secretary to the Government of the North West Provinces; dated Fort William, 20th March 1862.

Sir,

I AM directed to acknowledge the receipt of your letter No. 516A, dated the 1st instant, on the subject of the alleged impressment of carts laden with cotton for Government purposes; and in reply to request that his Excellency the Governor General in Council may be favoured with the opinion of his Honour the Lieutenant Governor, as to whether it is advisable to enact a law similar to that of which a project was laid before the late Legislative Council in 1857, but afterwards dropped, for the purpose of regulating the provision of carriage for troops on the march, and for punishing unlawful impressment.

Home Department.

India,

Enclosure 11, in No. 54.

(No. 1473.)

From *A. M. Monteath*, Esq., Under Secretary to the Government of India, to *E. H. Lushington*, Esq., Secretary to the Government of Bengal; dated Fort William, 20 March 1862.

Sir,

Home Department.

I AM directed to acknowledge the receipt of your letter No. 27A, dated the 7th January last, on the subject of the alleged impressment of carts laden with cotton for Government purposes; and in reply to request that his Excellency the Governor General in Council may be favoured with the opinion of his Honour the Lieutenant Governor, as to whether it is advisable to enact a law similar to that of which a project was laid before the late Legislative Council in 1857, but afterwards dropped, for the purpose of regulating the provision of carriage for troops on the march, and for punishing unlawful impressment.

2. Should the Lieutenant Governor consider legislation on this subject to be necessary, his Excellency in Council requests that his Honour will take steps for bringing in a Bill for the purpose before the Bengal Council for making Laws and Regulations.

Enclosure 12, in No. 54.

IMPRESSMENT OF CARRIAGE AND SUPPLIES FOR TROOPS BILL.

A BILL to amend the Law regarding the Provision of Carriage and Supplies for Troops and Travellers, and to punish Unlawful Impressment.

Preamble.

WHEREAS the habitual impressment by the civil power, under the regulations in force in the Presidency of Fort William in Bengal, of carts, cattle, boats, boatmen, and bearers, in order to facilitate the passage of troops through the districts of that Presidency, is unnecessary and oppressive; and whereas such impressment is always liable to abuse, and therefore should never be resorted to except on occasions of emergency, when it may be impossible, even by the offer of more than the common rates of hire, to procure sufficient carriage in time to meet the emergency; and whereas it is unnecessary to authorize travellers to require the assistance of officers of police in procuring means of transport, or supplies of provisions or of other articles during their journeys, and such assistance, when given, is oppressive, and liable to abuse; it is enacted as follows:—

Laws repealed and modified.

I. Sections II. and VIII., and Clause 7, Section IX., of Regulation XI. of 1806, of the Bengal Code, are repealed. Sections III., IV., VI., and VII. of the said Regulation, and Regulation VI. of 1825, of the same code, are modified, and their operation restricted in the manner following:—

Collectors, Magistrates, &c., prohibited from impressing all means of transport, except as hereinafter provided.

II. Except as hereinafter provided, all collectors and magistrates, and all officers subordinate to them, are prohibited from impressing any carts, cattle, boats, boatmen, bearers, or any other means of transport whatsoever, for any purpose whatsoever; anything in Regulation XI. of 1806, or Regulation VI. of 1825 of the Bengal Code, to the contrary notwithstanding.

Punishment for subordinate revenue or police officers impressing means of transport or workmen, and for enforcing delivery of provisions, &c. to travellers, &c.

III. Whoever, being an officer of revenue or police subordinate to a collector or magistrate, impresses or attempts to impress any cart, cattle, boat, boatman, bearer, cooly, or other means of transport, contrary to the provisions of this Act, or otherwise without authority of law; or impresses or attempts to impress any workman, labourer, or cooly, without authority of law; or enforces or attempts to enforce the delivery of supplies of provisions or other articles, to travellers or others, without authority of law—shall be liable to imprisonment, with or without hard labour, for a term not exceeding three months, and shall also be liable to fine. And the conviction of an offender under this section shall not bar the right of any person, directly or indirectly injured by any such illegal act, to redress by civil action.

In cases of emergency, military officers in command of troops may, by an order, be authorised to require collectors and magistrates to aid in procuring carriage, supplies, &c.

IV. It shall be lawful for the Governor General of India in Council, and for any Lieutenant Governor, and for any chief civil officer of any province under the immediate jurisdiction of the Government of India, within their respective jurisdictions, by an order stating that a case of emergency has arisen, and that it is impossible, even by the offer of double the common rates of hire and prices, to obtain the carriage, and to arrange for the provision of supplies for the troops required to meet the emergency, to authorize any military officer commanding a body or detachment of troops to call upon the collectors and the magistrates of districts or places from, through, or near to which such troops are ordered to march, to aid in procuring all necessary carriage whether by land or water, and supplies, and to facilitate the progress of the troops through his jurisdiction by the preparation of boats, or temporary bridges instead of boats, when necessary for crossing streams upon the line of march. Upon the receipt of such requisition, made in accordance with such

On receipt of requisition, collectors

such order, all collectors so called upon shall proceed in the manner prescribed by Section III., Regulation XI. of 1806 of the Bengal Code; and all magistrates so called upon shall proceed in the manner prescribed in Section VI. of the same regulation; and thereupon the provisions of Sections III., IV., VI. and VII. of the same regulation, and the provisions of Regulation VI. of 1825 of the aforesaid code, shall apply to all revenue and police officers, landholders, farmers, tehsildars, or others having the management of land, and to all other persons concerned, in the same manner as if this Act had not been passed. Provided that no carriage shall be impressed, and no provision of supplies shall be made under this section, other than or in excess of the quantity and description of carriage and supplies now or hereafter to be authorized by the general orders of Government, according to the number and description of the troops moving.

V. Whenever it is certified to any collector or magistrate as aforesaid, by a commanding officer as aforesaid, that a body or detachment of troops under such officer's command has been ordered suddenly to take the field, or to proceed to some place in order to preserve the peace of the country; and that it is impossible, even by the offer of double the common rates of hire and prices, to obtain the carriage, or to arrange for the provision of the supplies, or to make the preparations for facilitating the movement required to meet the emergency; and that there is not time to apply for the order described in Section IV. of this Act; such collector or magistrate shall proceed in the manner prescribed in the said section in order to the obtaining of carriage, or the provision of supplies, or the preparations for facilitating the march, or any or all of these objects, as the case may be; and thereupon the provisions aforesaid of the regulations aforesaid shall apply in the same manner as is in Section IV. of this Act provided.

* VI. Except in the cases provided for by Sections IV. and V. of this Act, the provisions of Sections III., IV., VI., and VII. of Regulation XI. of 1806, and of Regulation VI. of 1825 of the aforesaid code, shall cease to have any force or effect.

VII. When carriage is impressed, or supplies of provisions and other articles are provided in the manner authorized by Section IV. or Section V. of this Act, such carriage, provisions, and other articles shall be paid for by the civil officer concerned at double the common rates of hire and prices current at the time and place. And in the case of carriage, the carts, cattle, boats, boatmen, or bearers shall be paid for from the day on which they are impressed; and the pay shall be the same for days on which the carriage is stationary as for the days on which it is in motion. And where it is customary to charge back-hire, such back-hire also shall be charged at double the current rate of the time and place. Impressed land-carriage shall never, unless when it is unavoidable, be retained beyond the first halting-place without the jurisdiction of the civil officer under whose authority it is impressed. Whenever land-carriage so impressed is retained, otherwise than by agreement, beyond the district in which it was impressed, a treble instead of a double rate of hire shall be paid for the time during which it may be so retained.

VIII. In all cases of dispute, the collector of the district shall settle the amount of hire and other sums due, according to the last preceding section. And in regard to carriage of all descriptions, the collector shall fix beforehand the greatest weight to be carried by each cart, boat, man, or beast employed; which shall in no case exceed the loads commonly so carried according to the means of conveyance. If this load is exceeded, notwithstanding the remonstrance of the party aggrieved, a day's extra rate of hire, according to the common rate of the time and place, shall be paid to the party so aggrieved, for every day on which the load was in excess, by the civil officer concerned.

IX. When a collector issues an order under Section IV. or Section V. of this Act, he shall be held strictly responsible for the selection of a proper person as the creditable native officer whom he is required, by Section III., Regulation XI. of 1806, to depute to accompany the troops through his jurisdiction. The native officer so deputed shall be paid in no case at a rate of less than one rupee a day, commencing on the day of his first employment, and continuing to the time of his discharge, with such travelling allowance as may be authorized for revenue officers of his class. When more than one regiment moves in a body, there shall be one such officer deputed for each regiment, or part of a regiment so moving. It shall be a part of the duty of such officer to make such payments as he may be authorized by the collector to make; to take care that the loads fixed by the collector are in no case exceeded; and to hear all complaints made by the men impressed for carriage, and to redress them, when well founded, if he can; or otherwise to report them to the military officer in charge of the baggage, or to the officer commanding the troops, and finally, if not then redressed, to the collector.

X. This Act shall extend to all the districts of the Presidency of Fort William in Bengal; and to all other provinces under the administration of the Lieutenant Governor of Agra, or the Lieutenant Governor of Bengal; and to all provinces under the immediate administration of the Governor General of India in Council; and this Act shall commence to have effect on and from the day of 1857.

and magistrates how to act.

Carriage and supplies not to be impressed and provided other than or in excess of the quantity and description authorised by the general orders of Government.

Collectors and magistrates may act in like manner as provided in the preceding section in cases of public disturbance, when troops are suddenly ordered to take the field, and there is no time for applying for an order of Government.

Operation of certain provisions of Regulation XI. 1806 to cease, except in the cases provided for in the two preceding sections.

Rates of hire to be paid for carriage impressed or supplies provided under this Act.

Collector to settle amount of hire, &c. in cases of dispute, and to fix the greatest weight to be carried by each cart, &c.

Extra rate of hire in cases of excess-load.

Collectors to depute proper native officers to accompany the troops through their districts.

Territorial scope of Act.

Commencement of Act.

I.
India.

— No. 55. —

REVENUE DESPATCH to Government of India, No. 10 ; dated 23 May 1862.

Para. 1. I HAVE to acknowledge the receipt of the letters from your Government, dated the 9th December (No. 19) 1861, and the 7th and 30th January, 5th and 27th February, and 20th March (Nos. 1, 3, 4, 5 and 7) 1862, which report various matters connected with the promotion of the supply of cotton from India to this country.

2. I am disposed to agree in your opinion against the proposal for establishing a Government cotton farm and factory in the Chittagong Hills, and that the matter may more properly, and with a greater prospect of a successful issue, be left to private enterprise.

3. The remarks of the Lieutenant Governor of the North West Provinces on Mr. Paterson Saunders' report, relative to the cotton growing districts of the Doab, are valuable and interesting, but they do not appear to call for any particular observations from me in this place.

4. I am happy to learn that the only instances of the seizure of cotton carts for the purposes of the Government, which could be traced, referred to the period of the mutiny, when the emergencies of the time rendered it absolutely necessary to impress carriage for the troops without regard to private interests.

The Lieutenant Governor, however, admits the probability that the native officers employed in the collection of carriage for the use of troops, may, even under ordinary circumstances, occasionally accept bribes for releasing the carts of those who can afford to pay, and, in place of them, seizing those of others who cannot. I shall be glad to be informed whether any steps have been taken towards the enactment of the Bill, of which a copy is forwarded with your letter, No. 7.

— No. 56. —

Public Works Department.—Public.—No. 89 of 1861.

GENERAL.

To the Right Hon. Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir, Fort William, 23 December 1861.

DURING the months immediately succeeding the issue of orders on the Public Works Budgets of the present year, we had received from several of the local Governments applications, supported by strong reasons, for additional grants. Some of these were met in part by grants from the amount held in reserve by our Government in this department*, but that resource was very limited.

* Madras	-	-	Rs. 2,85,000
Bombay	-	-	2,50,000
Punjab	-	-	1,00,000
Nagpoor	-	-	1,00,000
Pegu	-	-	50,000
Hyderabad	-	-	30,000
Straits Settlements	-	-	25,000

2. The call for expediting works to facilitate cotton export was an urgent reason for giving some additional aid to the different Governments, and we considered our financial prospects to justify a small grant. This we decided in the Financial Department should be limited to 12 lakhs.

3. The papers which we now transmit will inform you of all that has passed on the subject, and show the works on which the local Governments propose to spend the money.

4. It has been necessary to give two additional grants of one lakh each for military buildings at Rangoon and at Hyderabad.

5. The barracks at Rangoon had never been completed for a whole regiment with its families. We had already decided, on the report of the Commission
sent

sent to Pegu last year, that the distribution of European infantry in Pegu should be—

I.
India.

At Rangoon	-	-	-	-	-	1 Regiment.
At Thayet Myo	-	-	-	-	-	$-\frac{1}{2}$ „
At Toungoo	-	-	-	-	-	$-\frac{1}{2}$ „

But at present the distribution is as follows :—

At Rangoon	-	-	-	-	-	$-\frac{1}{2}$ (and rather more).
At Thayet Myo	-	-	-	-	-	$-\frac{1}{2}$ „ „
At Toungoo	-	-	-	-	-	1 Regiment.

6. The 69th at Toungoo has suffered in health so greatly that it has become necessary to relieve it at once. Both the Commissioner and the Brigadier General were anxious to take this opportunity of effecting the permanent distribution, avoiding future needless movements, and reducing the costly keep of troops at Toungoo.

7. For this purpose it became necessary at once to complete the accommodation at Rangoon for a regiment with its families, and a lakh of rupees has been assigned for this purpose.

8. As regards Hyderabad, when the budget orders were issued we were not satisfied of the necessity of the numerous new military buildings proposed, and the assignment to them was much cut down. Since then the whole subject has been carefully considered by a committee under our instructions, with a view to deciding on a scheme for completing the accommodation at a minimum of expense, and this scheme being approved it is desirable to complete the buildings as soon as possible. An additional lakh was given to this object. But it was necessary, in order to meet these demands, to add one lakh more to our extra grant, which will now be 13 lakhs.

9. The distribution which we have made is as follows :—

To Madras, including a special grant for Godavery navigation of 1 lakh	-	-	-	-	-	-	2 $\frac{1}{2}$ lakhs.
Bombay	-	-	-	-	-	-	2 $\frac{3}{4}$ „
Bengal	-	-	-	-	-	-	1 $\frac{1}{2}$ „
North West Provinces	-	-	-	-	-	-	1 $\frac{1}{2}$ „
Nagpoor	-	-	-	-	-	-	1 $\frac{1}{2}$ „
Pegu	-	-	-	-	-	-	1 „
Hyderabad (including 1 lakh for military buildings)	-	-	-	-	-	-	1 $\frac{1}{2}$ „
Lighthouses under Captain Fraser	-	-	-	-	-	-	$-\frac{1}{4}$ „
TOTAL							12 $\frac{1}{4}$ „

10. The additional grant of 1 lakh to the Godavery Navigation will make, with the 2 lakhs which were assigned in the original budget orders, and the 2 lakhs given by us as reported in our Despatch, No. 44 of 5th July last, 5 lakhs in all to the works during the current year.

We have, &c.

Canning.
H. B. E. Frere.
C. Beadon.
R. Napier.
S. Laing.
W. Ritchie.

I.
India.

Enclosure 1, in No. 56.

No. 12,314, dated 8 October 1861.

EXTRACT from the Proceedings of the Government of India in the Financial
Department.

READ an office memo. from the Public Works Department, No. 2968, dated 16th August, inquiring whether there is any possibility of adding with safety 12 lakhs to the Public Works assignment for the current year.

Resolution.—The Governor General in Council is pleased to sanction the grant of 12 lakhs of rupees to the Public Works Department, in addition to the amount assigned in the budget for the current year.

Order.—Copy sent to the Public Works Department, in reply to the office memo. above adverted to, and with a request that this department be informed, as early as possible, of the manner in which the amount is to be distributed among the several local Governments.

Copy to the auditor general of India.

Enclosure 2, in No. 56.

CIRCULAR No. 90, dated 9 October 1861.

RESOLUTION, by the Government of India, Public Works Department.

SINCE orders were issued on the Public Works budgets of the current year, applications, strongly supported, have been made from several of the local Governments, for additions to their assignments. Some of these applications have been met in part by grants from the amount which was held in reserve by the Government of India in this department; but that resource was very limited, and is exhausted. The course of events in America has also continued to render more and more urgent the call for every measure that the Government of India can take to make the export of cotton more easy. For financial reasons, no great addition can be made to the assignments of any of the Governments; but the Governor General in Council has good cause to believe that a moderate addition to the assignments of some, if announced at once, may have very useful results.

2. And after mature consideration in the Financial Department, it has been decided by the Governor General in Council to grant a total addition not exceeding 12 lakhs.

3. In making this addition, the intention of His Excellency in Council is that it should be devoted in good faith to the attainment of more decided progress during the current year 1861-62, in opening out facilities for the export trade of the country, and especially for the export cotton trade. Some slight exceptions to this may be admitted where there is an urgent call for a special work of a different character, but still having an important bearing on the public welfare.

4. Many works have been specified by the various Governments and Administrations as those on which they desire to be allowed to expend more than the sum limited by the budget. But before making these additional assignments definitively, the Governor General in Council desires to receive from each of the Governments named below [by an early date, not later if possible than the 15th November], a brief but precise statement of the objects on which they propose to expend this addition to their assignments.

5. And His Excellency in Council desires also that the Governments named may at the same time report whether they are satisfied that the additional amount can be expended with benefit by their officers during the current year. It is a public injury to appropriate an assignment of this kind which might be beneficially shared among other provinces, if it be not used with benefit. Enough of the current year has passed to render a judgment on this point easy.

6. The

6. The apportionment which the Governor General in Council is disposed to make, from the information at present in his possession, is as follows:—

I.
India.

Bombay - - - - -	3 $\frac{1}{4}$ lakhs.
Nagpoor - - - - -	1 $\frac{1}{4}$ „
Madras - - - - -	1 $\frac{1}{2}$ „
Bengal - - - - -	1 $\frac{1}{2}$ „
N. W. P. - - - - -	1 $\frac{1}{2}$ „
Punjab - - - - -	$\frac{3}{4}$ „
Pegu - - - - -	$\frac{3}{4}$ „
Hyderabad - - - - -	$\frac{1}{2}$ „
Reserved by this Department - - - - -	1 „
TOTAL - - - - -	12 „

Ordered, That a copy of this Resolution be sent to the Governments named, with a request that the information called for in paras. 4 and 5 of this Resolution be supplied at once. It should be with this Government by the 15th November.

Enclosure 3, in No. 56.

No. 2146, dated 19 November 1861.

From *J. D. Sim, Esq.*, Secretary to Government of Fort St. George, to Secretary to Government of India, Public Works Department.

IN reply to your circular, No. 90, dated 9th October last, I am directed by the Governor in Council to enclose a list of the works on which his Excellency proposes to expend the additional assignment of 1,50,000 rupees promised to this Presidency.

2. With one exception, these works have been selected with special reference to the export cotton trade of the Presidency. The exceptional work is the continuation of the southern canal (already open from Madras to Sadras) to the Pálár River. This comes within the scope of para. 3 of your Circular “as having an important bearing on the public welfare.” The canal (on which tolls are now levied) ends at present at an insignificant village, and the traffic of the country to the south cannot be brought on it without first being conveyed across the Pálár River, and then several miles by land. When this has been accomplished, it ceases to be worth the while of the owners to take advantage of the canal for the remaining distance. The work now proposed will obviate this, and with the large demand of the Presidency town at one terminus of the line, a great development of the trade of this part of the country may be expected.

3. You will perceive that no allotment is proposed for the two great cotton districts, Tinnevely and Coimbatore. This is in consequence of sufficient provision having already been made for them from the ordinary funds of the Presidency.

4. This Government, I am to add, can expend the proposed assignment of 1,50,000 rupees, with advantage within the current official year. But to do this, it is essential that the sanction of the Supreme Government for the commencement of the works should be immediately communicated.

5. The small works, marked A, in North Canara, have been ordered for execution in anticipation of sanction of the Governor-General in Council.

6. The Governor in Council concludes that this assignment is altogether independent of the proceeds of the 1 per cent. income tax, which amounts for Madras to about 3,60,000 rupees, and formed the subject of my Letter, dated 11th October 1861, No. 1967, Revenue Department. An early reply to that communication is particularly requested.

I.
India.

LIST of Works on which the Government of Fort St. George proposes to expend the additional assignment of 1,50,000 rupees.

Road from Vizagapatam to Jeypoor, 9,000 Rupees.—This is a line of great importance, commercially and politically. The cotton of the Nagpoor country about Bustar will reach the port of Vizagapatam by it; and it is desirable to open up the wild tract of Jeypoor, which has hitherto been in a state of great lawlessness from its inaccessibility. A survey for a cart-road is being carried on; but a good bullock track already exists from Vizagapatam to the Galikondah range of hills. The proposed grant of 9,000 rupees is for the extension of this to Jeypoor, a distance of 60 miles. The Commissioner of Nagpoor has been addressed regarding the simultaneous continuation of the road into Bustar.

2. *Ongole to Kottapatam, in the Nellore District, 14,000 Rupees.*—A good road has been made already from Ongole westwards to Cumbum, in the Kurnool district. This grant is for its extension to the port and salt depôts of Kottapatam. If this link be completed, the cotton and other produce of the northern parts of Kurnool and Nellore can be shipped from Kottapatam, and return-loads of salt be there obtained.

3. *Nellore to Budwail in Cuddapah by the Dorenala Pass, 14,000 Rupees.*—This line leads direct from Nellore into the heart of the Cuddapah district. From Nellore there are good roads to Kistnapatam and Eskapilli, whence produce can be exported by sea, and return-loads of salt obtained. Kistnapatam will also be ultimately connected with Madras by the East Coast canal.

4. *Cuddapah to Budwail, 5,400 Rupees.*—This completes the above line, and the communication between Nellore, its ports and salt depôts on the one hand, and the capital of the Cuddapah district on the other.

5. *Cuddapah to Chittoor, in the North Arcot District, 15,000 Rupees.*—This is a very important line, by which the cotton and indigo of Cuddapah and Bellary find their way to Madras.

6. *Cuddapah to the Bellary Frontier, 9,000 Rupees.*—This is the main line by which the cotton of Bellary reaches Madras.

7. *Bellary to Cuddapah Frontier, 20,000 Rupees.*—This is the continuation of the above line to Bellary. A glance at the map will show its importance.

8. *Extension of South Canal from Sadras to the Pálár River, 17,000 Rupees.*—Vide para. 2 of letter.

9A. *Moondagode towards Bunkapoor, in North Canara, 5,000 Rupees.*—This will connect parts of the Dharwar cotton country with the port of Coompta, the communications with which are excellent. This line has been sanctioned by this Government.

10A. *Moondagode towards Pallah, 2,000 Rupees.*—Ditto - - ditto - - ditto.

11. *Sumpajee Ghat in South Canara, 7,000 Rupees.*—This grant will complete the repair of this important ghat, leading from Mysore and Coorg to the large port of Mangalore.

12. *Trichinopoly to Caroor, 7,500 Rupees.*—This line will connect the western part of the Trichinopoly district with its capital, from whence by land and rail its cotton and other produce may be conveyed to Negapatam for export.

13. *Trichinopoly to Salem, 5,000 Rupees.*—This road connects Trichinopoly with Salem, whence the railway affords easy communication with Madras.

14. *Trichinopoly to Arrealore, 7,500 Rupees.*—This line connects the north-east part of the district with Trichinopoly and the Madras trunk road.

15. *Madura to Rariaputty, 6,000 Rupees.*
16. *Madura to Areapucottah, 6,600 Rupees.*

{ These roads connect the cotton tracts of
Madura with the port of Tuticorin,
whence cotton is largely exported already.

N.B.—For the cotton districts of Tinnevely and Coimbatore, funds have already been allotted by this Government to the full extent required this year. The same has been done for the Kaiga ghat, and works at Beikhal in North Canara.

Enclosure 4, in No. 56.

No. 5980, dated 4th November 1861.

From Colonel *H. B. Turner*, Acting Secretary to Government of Bombay, to Secretary to Government of India, Public Works Department.

I AM directed to acknowledge the receipt of your telegram dated the 10th, and circular No. 90, dated the 9th ultimo, and to submit the statement called for in the fourth paragraph of the circular, together with the following remarks:—

2. The statement contains a list of 18 works, which this Government desires to carry on during the current year. The three first refer to the same trunk line of road from Poona to Hurrihur, on the boundary separating this from the Madras Presidency. With regard to the two first, I shall have the honour of addressing you in a few days in reply to your letter, No. 2821, of the 7th August 1861, and of explaining the reasons why the estimates which will then be submitted are in excess of those first drawn up, and will now only remark, that as the earthworks will shortly be completed, and will be comparatively valueless without the cross-drains, this Government is very desirous of commencing the small bridges and culverts at once, and propose to do so as soon as they are satisfied that the estimates which are now under consideration provide for no more than is absolutely necessary.

Nos. 1 and 2.—Small bridges and drains, and the earth-works of the road from Sattara to the Warna river.

3. No. 3 is the project I had the honour to submit for the sanction of the Government of India, with my letter, No. 5448, dated the 10th ultimo. Besides being a portion of the trunk road to Madras, this section will be of great value for cotton traffic.

No. 3.—Portion of the road from Poona to Hurryhur, between Bunkapoor and Hurryhur.

4. The roads from the cotton districts of Punderpoor and Beejapoor, *viâ* Kurar, and the Koombarlee Ghat to the sea, have been the subject of frequent correspondence with the Government of India. When the rebellion of 1857 broke out, it became necessary to suspend the work; but, on the urgent representations of this Government, a sum of 45,000 rupees was granted for completing such works as were necessary for opening the road for traffic, on condition that no more would at that time be asked for. The ghat was opened, but from its foot to the point on the River Wasishtee, where cotton-boats can reach every tide, little if anything has been done.

No. 4.—Project for continuing the road from the foot of the Koombarlee Ghat to Gowulecote.

Vide letter from the Secretary to the Government of India, No. 4015, dated 20 August 1858.

5. As Gowulecote is not approachable from seaward during the south-west monsoon, it has been considered an useless expense to make the road from the foot of the ghat to it fit for monsoon traffic; but it is desired to render it a good fair-weather road, and to construct a pier at Gowulecote to facilitate the shipment of cotton. Plans and estimates have been prepared and approved by this Government, and of the amount required, 86,018 rupees, it is proposed to spend during the current year 20,000 rupees.

6. Between Belgaum and the coast, the only direct communication at present is *viâ* the Ram Ghat to Vingorla; this ghat is so excessively steep, that to transport a light siege train up it in 1857–58 cost the Government above 30,000 rupees; and so it may be considered prohibitory to cart traffic, an ordinary cart moderately laden requiring six pairs of bullocks to draw it up the ghat, whereas one pair would suffice on the Parpoolee line; indeed, had the money sunk in hauling heavy ordnance stores up this ghat in 1858 been spent on the Parpoolee Ghat, it would have gone far towards opening it for traffic.

No. 5.—The Parpoolee Ghat.

7. An improved road from the Belgaum Collectorate to the coast has been a desideratum for years. The Tulkut Ghat, a far better one than the Ram Ghat, was selected in 1851, and a project for it was prepared; but further inquiry proved that the Parpoolee Ghat was by far the best, and detailed plans and estimates, the latter amounting to 5,60,110 rupees, having been drawn up, the project was first entered in the budget of 1857–58 as item 12, Part I., and it was again entered in the budget of 1860–61 as item 2, Part I.

8. It has not, however, been sanctioned, and I am directed to point out that in a Despatch, No. 77, dated the 8th December last, the Right Honourable the Secretary of State for India urged reasons for objecting to the large outlay required for this ghat. There must, I am to observe, be some mistake in supposing that Belgaum is only 20 miles further from Sedaseoghur than from Vingorla; from Belgaum itself the difference is about 60 miles, and from the Northern Talookas of that collectorate the difference is still greater; but even supposing that some of the Belgaum cotton be carried to Sedaseoghur, the trade in other articles *viâ* Vingorla is very considerable, and the fact that Vingorla is only an open roadstead, hardly affects the question, because, as the trade between Bombay and Vingorla is carried on in native craft, Sedaseoghur is as unapproachable by them as Vingorla is. It is only when native craft can touch at Vingorla that they can go to sea at all.

Copy of which is attached.

9. The cotton traffic *viâ* Barsee to the railway is already very extensive, and is increasing every year; the road between the two places is partly over black soil, and is almost impassable during heavy rain; still, carts laden with cotton did struggle through the mud all through the last monsoon, and this Government maintained a pontoon bridge at the Redowa Ferry, where the line crosses the river Seena, to enable the carts to pass to the railway.

Nos. 6 and 7.—Road from Barsee Road Station to Barsee, and improving the tracks thence to Yaramulla and Dhoki.

I.
India.

10. A hard at this ferry has been sanctioned as a charge against the ferry fund, and it is now desired to make the road a first-class moorumed road with masonry cross-drains. Plans and estimates are in hand, and it is understood that the road will cost about 5,000 rupees a mile, or 1,00,000 rupees for 20 miles. The plans and estimates will be awaited, but when received this Government desires to commence the work at once.

11. Beyond Barsee the road branches off, one branch in the direction of Yaramulla, the other towards Dhoki; both these roads pass through hilly country, and to improve the passes, it is proposed to spend 5,000 rupees.

No. 8.—Bridges on the road from Sholapoor to Hyderabad.

12. As explained in my letter, No. 3084, dated 2d July 1861, this Government feels pledged to the Nizam's Government to complete at an early date the two bridges on the portion of the road between Sholapoor and Hyderabad, lying within the limits of this presidency, and it was determined to insert them in the next budget, but if they can be commenced at once, a year will be saved, and as plans and estimates are ready, this Government would prefer adopting that course.

No. 9.—Repairs of certain roads in the Sattara Collectorate.

13. The sum provided for repairing the roads in the Sattara Collectorate having proved insufficient, a further sum of 2,505 rupees has been granted; many of these roads are used largely for cotton traffic.

No. 10.—Road from Ahmednuggur to the Patus Railway Station.

14. A road for the purpose of draining the produce of the districts south of Ahmednuggur has recently been commenced from that station to Patus. It has been surveyed and lined out by the executive engineer, Ahmednuggur, and is now being cleared by convict labour; this distance is 46 miles, and it is proposed at present to lay out about 200 rupees a mile.

No. 11.—Metalling road from Ahmednuggur to foot of the Imampoor Ghat.

15. The traffic from the cotton districts of Berar *via* Jaulna and Aurungabad on the north-east, and Paetun on the east, meets at the foot of the Imampoor Ghat. Thence to Ahmednuggur the present Moorumed road will not stand the traffic, and a metalled surface is absolutely necessary.

No. 12.—Portion of road from Malligaum to Ahmednuggur, between Baboola and Yeola.

16. The road from Malligaum to Ahmednuggur was cleared some years ago, and travellers' staging bungalows were erected along it, but the troubles of 1857-58 have prevented any further improvement. From Malligaum to the Railway Station at Munmar, this road has already been commenced under the provision made in the budget of the current year, No. 37, Part II. B, together with a further sum of 12,000 rupees allotted out of the 2½ lakhs, granted in your letter, No. 3122, above quoted; between the Candeish Collectorate and Yeola it is proposed to spend the 1,000 rupees, provided in Part II. A, No. 85, of the same budget, but between Yeola and Baboola, 25,931 rupees will complete the road, and of that sum it is proposed to spend 10,000 rupees during the current year; detailed plans and estimates have been approved.

No. 13.—Road from Peint to Bulsar.

17. A road from the Nassick Districts to the coast was proposed some years since, and detailed plans and estimates were prepared by Captain Trevor, of the engineers; there is a considerable traffic on this line, the grains of the Deccan being sent to the coast in exchange for salt and rice. The improvement of the line has recently been under consideration, in consequence of it having been determined to send the Guzerat, Sindh, and Punjab mails by that route, availing of the Great Indian Peninsula Railway between Bombay and Nassick, and of the Bombay, Baroda, and Central India Railway from Bulsar northwards: 14,122 rupees was devoted to this work out of the 2½ lakhs before referred to, but a further outlay of 9,705 rupees is much required to improve a portion between Parneiva and the Durrumboor Jungles, which becomes nearly impassable after heavy rain.

Nos. 14 and 15.—Bridges on the Bombay and Agra, and Poona and Ahmednuggur Roads.

18., Nos. 14 and 15 refer to two bridges, one on the Poona and Ahmednuggur Road, which has never been completed, and the other on the Bombay and Agra Road near Nassick, destroyed some years since by a flood, both of which are much required.

No. 16.—Road from Chaleesgaum to Dhoolia.

19. Chaleesgaum is the present terminus of the Great Indian Peninsula Railway in Candeish, and a road connecting it with Dhoolia has been cleared. As the mails for the North Western Provinces now go by this route, and the transport train has likewise adopted it, and as it will always be a valuable railway-feeder for the produce of Candeish, it is proposed to make it a good road, but the small sum now allotted is merely to repair the damage of the past heavy monsoon.

No. 17.—Road from Dohud to Baroda.

20. This road will be a valuable cotton-road and feeder to the railway; it is now being examined by an engineer officer, and its immediate commencement is strongly urged by the political authorities of Baroda and the Rewa Kaunta; the subject is now under consideration of this Government.

No. 18.—Apollo Bay reclamation.

21. The want of wharfage and facilities for landing and shipping cotton has been the cause of some anxiety; for years past the inconvenience has been very great, and the source of frequent complaint. Recently, sanction was given to the widening of the Apollo Pier, as reported in my letter, No. 2808, of 19th July 1861, but the very large increase of cotton expected this year, and the prospects of still further increases in future, render it imperative that increased wharfage be provided; with this view, a plan and estimate have been drawn up and are now under consideration, but the necessity is so urgent that this Government desires to commence the work at once.

22. I am directed to add that this Government is satisfied that the additional amount sanctioned by the Government of India can be expended with benefit during the current year.

STATEMENT of WORKS on which it is proposed to Expend the 3 ½ Lakhs of Rupees assigned for Expenditure in the BOMBAY PRESIDENCY in the Government of India's Circular, No. 90, dated 9 October 1861.

Districts.	DESCRIPTION.	Sanction.	Amount of Estimate.	Expended up to 30 April 1861.	Required in 1861-62.	Required for Completion.	REMARKS.
	Trunk Road from Poona to the Madras Frontier at Hurryhur:		Rs.	Rs.	Rs.	Rs.	
Sattara - -	Drains and culverts and small bridges on the portion of the Poona and Hurryhur road between Sattara and the Warna River.	- - -	90,590	- -	45,000	45,590	This is under the consideration of Bombay Government.
	Earthworks for the same	- - -	1,00,463	47,298	53,165	- -	Sanctioned under Government Resolution No. 4578, dated 31 August 1861.
	Road from Bunkapoor to Hurryhur, being portion of the trunk road from Poona to Hurryhur.	- - -	2,36,349	- -	20,000	2,16,349	Submitted to Government of India for sanction, and for entry in the Budget of 1862-63. Letter No. 5448, dated 10 October 1861.
Ditto - -	Road from foot of Koombaree Ghat to Gowulcote.	- - -	86,018	- -	20,000	66,018	To be inserted as a first-class road in the Budget of 1862-63. <i>Vide</i> Government Resolution No. 5514, dated 14 October 1861.
Belgaum - -	Parpoolee Ghat - - -	- - -	5,60,110	- -	25,000	5,35,110	This project was included in the Budget of 1857-58, but was placed in abeyance by the Government of India. A sum of 60,000 rupees was entered in the Budget of 1860-61 as an expenditure of that year, but it was ordered to be struck out, as the subject was to be referred by Government of India to the Home Government.
Sholapoor - -	Barsee Road Station to Barsee.	- - -	1,00,000	- -	20,000	}	Plan and Estimate called for to be submitted in time for insertion in the Review Statement of 1862-63.
Ditto - -	Extension to Yaramulla and Dhoki.	- - -	5,000	- -	5,000		
	Bridges on the road from Sholapoor to Hyderabad.	- - -	34,755	- -	20,000	14,755	The project will be entered in the Budget of 1862-63. <i>Vide</i> letter to Government of India, No. 3084, dated 2 July 1861.
Sattara - -	Repairs of roads in the Sattara Collectorate.	G. R. 4915, dated 17 Sept. 1861.	2,505	- -	2,505	- -	Sanctioned.
Ahmednuggur -	Road from Patas to Ahmednuggur.	G. L. 1448, dated 17 May 1861.	9,200	- -	9,000	200	Sanctioned, and being cleared by convict labour.
Ditto - -	Metalling road from Nuggur to Khospoor (foot of Imam-poor Ghat).	G. R. 550, dated 25 Mar. 1861.	30,974	- -	10,000	29,974	To be entered in Review Statement of 1862-63.
Ditto - -	Improving the portion of the Ahmednuggur and Malligaum road between Babool and Yeola.	- - -	25,931	- -	10,000	15,931	Ordered to be entered in Review Statement of 1862-63. Government Resolution No. 5350, dated 8 October 1861.
Nassick - -	Road from Peint to Bulsar	- - -	2,01,248	- -	9,705	1,77,421	This is in addition to 14,122 rupees allotted out of the 2½ lakhs granted in Government of India's Letter, No. 3122, of the 29 August 1861.
	Completing a bridge on the Poona and Nuggur road, near Kheirgaum.	- - -	2,260	- -	2,260	-	
	Rebuilding a bridge on the Wagheeree Nulla, on the Bombay and Agra road.	G. R. 2749, dated 24 Oct. 1859.	3,612	- -	3,612	- -	Ordered for entry in the Review Statement.
	Clearing the road from Chaleesgaum to Dhoolia, at 50 rupees per mile.	G. L. 5693, dated 22 Oct. 1861.	1,800	- -	1,800	- -	Sanctioned by Government Resolution, No. 5693, dated 22 October 1861.
	Road from Dohud, <i>via</i> Godra, to Baroda.	- - -	18,000	- -	18,000	-	
Bombay -	Apollo Bay reclamation	- - -	8,94,765	- -	50,000	8,44,765	
				Rs.	3,20,002		

H. B. Turner, Colonel Commandant,
Acting Secretary to Government of Bombay.

I.
India.

Enclosure 5, in No. 56.

No. 4266, dated 2 December 1861.

From Lieutenant-Colonel *H. Yule*, Secretary to Government of India, Public Works Department, to Secretary to Government of Bombay, in the Public Works Department.

I AM directed to communicate the orders of the Governor General in Council on your letter, No. 5980, of the 4th November, regarding the proposed disposal of the intended extra budget grant of three lakhs and a quarter, which was the subject of Public Works Department Circular, No. 90, of 9th October.

2. It has been found necessary to make some reduction in these grants, owing to a mistake on the part of the Punjab Government. My letter, No. 3122, of 29th August 1861, authorised a supplementary grant of $2\frac{1}{2}$ lakhs to Bombay, out of an expected saving this year of $4\frac{3}{4}$ lakhs in the Punjab on the Railway Budget Estimate for the purchase of land in Delhi. It proved, however, that the land had already been taken up by the local officers, and that the completion of the purchase of land could not be deferred. There will be an actual saving of one lakh, however, on the Punjab Budget, for land purchase, and this credit is transferred to Bombay to meet the expected excess to that amount, which is reported in Colonel Rivers's letter, No. 1336, of 14th November, 1861. But the extra grant, which is the special subject of the present letter, cannot be given in full.

3. The proposals of his Excellency the Governor in Council for the disposal of this grant appear to the Governor General in Council to have been well considered. There is only one to which he entertains objection.

4. This is, the proposal to spend half a lakh at once on increased wharfage at the Apollo Bay, to be created by reclamation from the sea.

The work is estimated to cost 9 lakhs of rupees.

5. The powers of sanction accorded to the Government of Bombay have lately been enlarged to eight times their former extent. This work not only far exceeds those extended powers, but approaches the enlarged powers of the Governor General in Council. The latter cannot sanction the commencement of this work until the project shall have been fully submitted to the Government of India. Nor is it probable that any urgent necessity for a work costing 90,000 *l.* can be effectually met by spending 5,000 *l.* The 50,000 rupees proposed to be assigned to this work is therefore objected to, and this effects the reduction to $2\frac{3}{4}$ lakhs, the necessity of which has been explained above.

6. A few remarks remain to be made on other projects—

Part of trunk road to Mysore Frontier, near Hurrlyhur, 20,000 rupees.

This work will be the subject of a separate letter.

Road by Parpoolee Ghat, from Belgaum to Vingorla, 25,000 rupees.

There is, it appears, no tolerable road at present down the ghats from Belgaum. The Parpoolee Ghat affords the best line, and a project was entered in the budget of 1860-61 for a road by this ghat, at an estimate of 5,60,110 rupees, which the Governor General in Council recommended to the Secretary of State, but the latter demurred, pointing out the superior advantages of a communication with Sedasheoghur instead of Vingorla. The Secretary of State was, however, under misapprehension as to the comparative distance from Belgaum of the two ports.

It is not clear from the letter now under reply whether the Government of Bombay intends the proposed expenditure of 25,000 rupees as a commencement of the project of 1860-61, or merely for the isolated improvement of the ghat descent. I am directed to ask information on this, and also whether the Government of Bombay desires to bring forward anew for sanction the whole project of 1860-61, which is within the powers now possessed by the Government of India. With reference to the Secretary of State's remarks, I am also to inquire whether any present line of communication exists between Belgaum and Sedasheoghur, and at what probable cost its improvement is practicable.

Nothing in the preceding remarks is intended to be held as objecting to the grant of 25,000 rupees under consideration.

7. Road from Dohud to Baroda.—*Rs.* 18,000.

This is said to be a valuable cotton-feeder; but as it is only now being examined by an engineer, it may be doubted if the money will be spent this year. In that case the amount may be transferred to other approved works.

8. The most essential part of this letter has to day been telegraphed to you.

(No. 4267.)

Endorsed by Public Works Department.—To Financial Department for information.

Enclosure 6, in No. 56.

No. 95, dated 11 November 1861.

Office Memorandum.—By Lieutenant Colonel *J. P. Beadle*, Officiating Secretary to Government of Bengal, in the Public Works Department.

CIRCULAR, No. 90, of 1861, having been received by the Lieutenant Governor at Darjeeling, the undersigned is instructed to state, in the absence of some papers which are necessary for a formal reply, that it is the intention of the Lieutenant Governor to avail himself of the 1½ lakhs of rupees, which it is now proposed to apportion to Bengal for the more rapid improvement of communications for the export trade of the country, and especially for the export cotton trade, to be expended during 1860-61.

2. The Lieutenant Governor would chiefly devote this money to the opening out of the Wurdah and Mahanuddy Valleys, so that the cotton grown there may reach and be exported from the Cuttack coast. Letters from Cuttack draw attention to very large stores of cotton in that city, and it is of great importance that the communications should be improved.

These are, the road from the Nagpoor boundary through Sumbhulpoor to Cuttack, with a branch road to the road which has to be made from Cuttack to Sonepoor, at the rectangular bend of the Mahanuddy.

The improvement of the navigation of the Mahanuddy River, and the road from Cuttack to Taldungah on the Mahanuddy, which is the highest point to which boats can navigate from False Point Harbour during the dry season.

3. A portion of the funds would be devoted to the improvement of the road from Chuttra, which is a cotton district, to Chumparun, on the Grand Trunk Road, forming the first portion of a road to connect Palamow with the Grand Trunk Road.

4. The Lieutenant Governor further considers the Darjeeling cart-road as important a work as any in Bengal, and one to which funds should be assigned. But it does not so directly come under the intention of his Excellency the Governor General in Council in making this further apportionment of funds, as the other works mentioned.

5. A formal reply to the circular, will be drafted, when some information and papers which have been written for arrive from Calcutta.

Enclosure 7, in No. 56.

No. 4272, dated 2 December 1861.

From Lieutenant Colonel *H. Fule*, Secretary to Government of India, Public Works Department, to Officiating Secretary to Government of Bengal, in the Public Works Department.

I AM directed to acknowledge your memorandum, No. 95, communicating generally the views of his Honour the Lieutenant Governor, as to the disposal of the extra budget grant of 1½ lakhs, which formed the subject of Circular No. 90 of 9th October.

2. The Governor General in Council approves of the Lieutenant Governor's proposals as now generally stated. The more specific statement promised will be looked for.

3. With reference to the remarks in your Memorandum on the Darjeeling Hill-road, I am directed to say that the Governor General in Council would by no means desire to exclude it from participating in the present grant.

(No. 4273.)

ENDORSED by Public Works Department.—To Financial Department for informations.

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Enclosure 8, in No. 56.

No. 3569 A, dated 23 November 1861.

From Lieutenant Colonel *W. E. Morton*, Officiating Secretary to Government of North Western Provinces, in the Public Works Department, to Secretary to Government of India, Public Works Department.

THE Lieutenant Governor has given his best consideration to your Circular, No. 90, dated the 9th ultimo, intimating that the Governor General in Council is prepared to add 1½ lakhs to the assignments for public works in these provinces, with a view to its being "devoted in good faith to the attainment of more decided progress, during the current year 1861-62, in opening out facilities for the export trade of the country, and especially for the export cotton trade."

2. In reply, I am desired to communicate the following observations:—

3. The lines of road in these provinces, by which produce chiefly finds its way to the seaboard are, the Grand Trunk Road, the two divisions of the Great Deccan Road from Nagpoor to Mirzapoor, the Rohilkund Imperial Road from the Ganges near Roorkee to the same river at Furruckabad, the Saugor and Kalpee Road, the two latter being tributary, as it were, to the Grand Trunk Road, and pouring upon it the traffic of Rohilkund and of Western Bundelkund respectively.

4. It is the opinion of the Lieutenant Governor that the assignments, sanctioned in the budget, to these several lines of communication, call for no addition within the present year. It is his belief that funds in excess of the allotments already made cannot be profitably expended by the existing establishments before the 30th April 1862, and he feels the full force of the remark that "it is a public injury to appropriate an assignment of this kind which might be beneficially shared among other provinces, if it be not used with benefit."

5. But there are, of course, many other lines of imperial importance, the improvement of which will contribute very materially to facilitate the export trade of the country by connecting large marts in the interior with the great lines of road above-mentioned. Almost all these are included in the scheme of imperial roads submitted for consideration in my letter No. 3148 A, dated the 12th ultimo. Of the several interior roads enumerated in that letter, those which appear to the Lieutenant Governor to call for the earliest attention, with a view to opening out facilities for the export trade of the country, are the following, viz.:—

1st. The road from the Baitool District through Hoshungabad and Nursingpoor to Jubbulpoor, where it will form a junction of the Great Deccan Road to Mirzapoor. (See para. 9 of No. 3148 A.)

2d. The road from Kuchla Ghât through Soron and Kasgunge to Hattrass. (See paras. 6 and 8 of No. 3148 A.)

3d. The road from Etawah to Bhind, and the section in the Mynpoorie District (26 miles) of the line from Etawah, *via* Bewur, to Furruckabad. (See para. 6 of No. 3148 A.)

4th. The road from Doorgowtee, on the Grand Trunk Road, *via* Ghazeepoor and Deorhee Ghât on the Gogra, to Goruckpoor. (See para. 4 of No. 3148 A.)

6. It will be well, however, to invite the attention of the Government of India before proceeding further to my letter, No. 2690A., dated 14th September, and its enclosure, in which proposals were submitted for the appropriation of the funds (amounting to 5,64,000 rupees) derived from the one per cent. duty under section 3, Act XXXII. of 1860.

7. To the first of the roads abovementioned was allotted the sum of 36,977 rupees; to the second, under the head "Allyghur District," 19,793 rupees; to the third, the sum of 5,884 rupees, and subsequently, by a modification of the proposal under the head of "Mynpoorie District," the sum of 6,615 rupees to the Mynpoorie section of the Furruckabad and Etawah Road; and to the fourth, the sum of 26,712 rupees. It seems to be uncertain whether the proceeds of the one per cent. duty will be placed at the disposal of this Government for the execution of reproductive works, and it must be doubtful whether the several appropriations recommended will fall in with the views of the Government of India. It will be better, therefore, to deal with the question laid before the Lieutenant Governor in your letter under acknowledgment, irrespectively of the contingency referred to.

8. It is believed that there is no road in these provinces, always excepting the main imperial lines specified in para. three of this letter, which calls for immediate improvement, in connexion with the cotton trade, so loudly as the line from the southern border of the Baitool district on the side of Ellichpoor to Jubbulpoor, *via* Hoshungabad and Nursingpoor. Second in importance to this, but more local at the same time in its character, is the road from Kuchla Ghât on the Ganges near Budaon to Hattrass, about 22 miles from Agra, on the branch of the Grand Trunk Road.

9. The former between November and May carries an enormous traffic in cotton. Hundreds of carts, the Deputy Commissioner of Nursingpoor states, pass over it daily within that period; and yet it is in a very backward condition, and the nature of the soil for the most part, and of the country which it traverses, are such that the efforts hitherto made for improving the line have been ineffective. From information demi-officially received, it is found that the line has a length of about 225 miles, of which nine miles only, and these in the immediate vicinity of the stations, are metalled. It runs in Baitool over a hard soil for about 14 miles, over black cotton soil for the next 10 miles, and then through a sandy tract covering about 20 miles. In the Hoshungabad district, through which the road runs for 81 miles, black soil alternates with sand, which, however, does not extend over a greater length than 16 or 20 miles. In Nursingpoor and Jubbulpoor hardly any other than black soil is found. The road is not raised for more than 20 or 30 miles, the nullahs are very numerous and troublesome, and the bridging is very incomplete.

Except in the Nursingpoor district, which has a length of road 74½ miles (where no metal of any kind is to be had, except stone from the Nerbudda at a very heavy cost), gravel and kunkur are obtainable in sufficient quantity at reasonable distances from the line; but it has been found by experience that metal laid upon black soil without a substratum of stone ballast, sinks when heavy rain falls, and as the Deputy Commissioner of Jubbulpoor says, "the black soil oozes up to the surface."

10. It will be seen from the above that the quantity of work to be done, its cost, and the difficulties of construction, are very considerable.

11. In regard to the second of the two roads now specially under notice, I am desired to state as follows:—

This line from Kuchla Ghât to Hattrass has an important bearing on the traffic of Rohilkund with Agra and the countries beyond, to which it exports much of its surplus produce in sugar and cereals, and large quantities of timbers. The construction of this line as a bridged and metalled road throughout its whole length, would impart a great stimulus to the trade of Rohilkund, and would almost certainly encourage the growth of cotton (for which the light porous soil of Rohilkund is well fitted) to a much greater extent than it has hitherto obtained, owing probably, in some measure at least, to the great difficulty of exporting it.

The entire length of the line, 54½ miles, of which 28½ lie in the district of Allyghur and 26 in that of Etah. In the former district the whole length is bridged; 14 miles are metalled and bridged, and in every respect completed; seven more are ready to receive the metal, and the earthwork remains to be completed in the remaining distance of 7½ miles. The sum of 11,440 rupees has been set aside for continuing the work from the Road and Ferry Funds of the Allyghur district. There are no difficulties to be encountered in this district, and the estimated outlay per mile is about 1,500 rupees. In the latter (Etah) district the case is different. For 17 miles the road would run over high ground on very sandy soil, and for nine miles through the tract known by the name of the "Boorh Gungo," or old Ganges. In this section the construction will be difficult and expensive. The whole tract is much depressed below the general level of the country; swamps are very general throughout; a great extent of embankment and numerous bridges and culverts will be required. A careful preliminary survey will be indispensable.

12. In the Etah district only two miles have been raised, bridged, and metalled; 11 miles are in progress of raising and bridging, with an assignment of about 7,000 rupees from local funds; and 13 miles remain, on which little or no work has been attempted. For this distance it is a mere cart tract. As roughly estimated, the cost per mile in the Etah district will amount to about 4,000 rupees, owing to the difficulties above described.

13. The Lieutenant Governor would be glad to assign the whole additional sum of 1½ lakhs to these two roads, in the proportion of one lakh to that in the Nerbudda Valley, and of 50,000 rupees to that between Hattrass and Kuchla Ghât, if there were any capable officers, with establishments, ready at hand to undertake the work. But he hesitates to employ the civil officers on the construction of the former, no less than on the Boorh Gunga section of the latter, and there are no professional officers at his disposal. And even if this difficulty were removed, there would still be room for doubt whether the funds could be expended in full before the 30th April 1862, and whether the expenditure would have the effect of materially facilitating the trade of the country within the current year. For, as already stated, the road in the Nerbudda Valley has a total length of 225 miles over very difficult ground, and the cost per mile on a very low estimate could not fall short of 2,000 rupees, or over the whole length 4½ lakhs of rupees, so that little more than some improvement of the surface in its whole length, or the construction of about 50 miles (supposing materials and metal to be already collected) could be accomplished, within the six months that remain, with an outlay of one lakh; while the nine miles through the Boorh Gunga on the Kucha Ghât and Hattrass line would hardly be commenced within the period fixed, owing to the necessity of a careful preliminary survey.

14. For these reasons the Lieutenant Governor apprehends that it would not be in accordance with the spirit of the instructions conveyed in your letter under notice, to recommend the appropriation of the additional assignment to these two lines of communication

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cation, though he believes them to be of the first importance to the export trade, and especially to the cotton trade of the country. It is proposed, however, to include both in the Budget for 1862-63, in the hope that arrangements may be made meanwhile for placing each under a departmental officer.

15. The foregoing remarks regarding the Boorh Gunga portion of the road from Kuchla Ghât to Hattrass do not apply to the section lying in the Allyghur district, and in the high ground of Etah, between the border of the Allyghur district and the high bank of the Boorh Gunga. This work could be undertaken and well executed by the district officer, and the Lieutenant Governor would propose to make the following allotment, viz. :—

	Rs.
To Allyghur for completion - - - - -	18,000
Etah for construction on the high ground - - - - -	26,000
To this his Honour would add for—	
1st. Road, from Doorgowtee on Great Trunk Road, <i>viâ</i> Ghazee- poor and Deorhee Ghât on Gogra towards Goruck- poor - - - - -	25,000
2d. Ditto Etawah to Bhind - - - - -	46,000
3d. Ditto Mynpoorie Section of Furruckabad and Etawah Road - - - - -	35,000
TOTAL - - - - -	1,50,000

in the belief that these several works can be executed by the district officers, and that the whole assignment can be beneficially expended before the 30th April 1862, provided that early orders be received.

16. It should be noted, as regards No. 1, that this road will not be completed with the sum of 25,000 rupees, but a large bridge at Mhow, which was commenced so long ago as 1855, could be finished, and considerable progress made in the metalling of the line.

17. The importance of No. 2 has been already recognized, and the officiating magistrate of Etawah, with the assistance of the resident railway engineer at that place, has estimated the cost at 46,000, after going over the whole length in his company.

18. No. 3, too, has been regularly estimated for; the district officer has prepared to undertake the work, and will be able, it is believed, to complete it within the period allotted, *i.e.*, before the end of the official year. If this can be accomplished, there will be a direct communication by a road, bridged and metalled throughout, between Furruckabad, *viâ* Bewur on the Grand Trunk Road, and the railway station at Etawah and Bhind before the end of the current year.

19. I am to express the Lieutenant Governor's regret that this reply to your letter No. 90, dated 9th ultimo, should not have been dispatched in time to reach you on the 15th instant. The progress of business has been somewhat interrupted by the presence of His Excellency the Viceroy at Allahabad, and by the subsequent preparations for the Lieutenant Governor's tour.

Enclosure 9, in No. 56.

No. 4268, dated 2 December 1861.

From Lieutenant Colonel *Fule*, Secretary to Government of India, Public Works Department, to Officiating Secretary to Government of North Western Provinces, in the Public Works Department.

I AM directed to acknowledge your letter No. 3569 A, replying to Circular No. 90 of 9th October, respecting an extra budget grant of 1½ lakhs.

2. The Governor General in Council entirely approves of the Honourable the Lieutenant Governor's proposals for spending this grant as follows :—

	Rs.
1st. On the less difficult part of the road from Kuchla Ghât to Hattrass - - - - -	44,000
2d. On road from Doorgowtee, on Great Trunk Road, <i>viâ</i> Ghazee- poor and Deorhee Ghat, towards Goruckpoor -	25,000
3d. Road from Etawah towards Bhind - - - - -	46,000
4th. Mynpoorie Section of Furruckabad and Etawah Road -	35,000
TOTAL - - - - -	1,50,000

3. The road from Baitool to Jubbulpoor, *viâ* Hoshungabad, which is spoken of in your letter, will now be under the Chief Commissioner of the Central Provinces, who will be addressed on the subject.

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4. With reference to the transfer just alluded to, I am directed to request that at an early date his Honour the Lieutenant Governor will be good enough to state his view as to the amount which should fairly be transferred from current budget of the North West Provinces to that of Nagpoor.

(No. 4269.)

Endorsed by Public Works Department.—To Financial Department for information.

Enclosure 10, in No. 56.

No. 2518, dated 11 November 1861.

From Lieutenant Colonel R. Maclagan, Secretary to Government of Punjab, in the Public Works Department, to Secretary to Government of India, Public Works Department.

IN acknowledgment of your Circular No. 90 of the 9th ultimo, I am desired to state that his Honour the Lieutenant Governor proposes to allot the special grant of $\frac{3}{4}$ lakh, for facilitating the export traffic of the Punjab, and particularly the export of cotton, on the following roads:—

ROHTUCK to DELHI.		Rs.
Metalling and improvement	- - - - -	18,000
HOOSHIARPOOR to JULLUNDER.		
Bridging and metalling	- - - - -	12,000
HOOSHIARPOOR to PHUGWARA.		
Bridging and metalling	- - - - -	15,000
SEALKOTE to WUZEERABAD.*		
Small improvements	- - - - -	3,000
SEALKOTE to GOOJRAWALLA.*		
Small improvements	- - - - -	3,000
Roads from the cotton-growing lands in the interior of the districts of Jhung, Mozuffurgurh, Mooltan, and Googaira to the nearest rivers	- - - - -	8,000
Roads from cotton lands to river in <i>Shapoor</i>	- - - - -	8,000
Roads from cotton lands to river in <i>Derah Ghazee Khan</i>	- - - - -	8,000
TOTAL	- - - - -	75,000

2. A complete statement on the subject of the circular under acknowledgment has been prepared, with explanation of the grounds on which the above allotment has been proposed; all the works recommended having immediate reference to the object specified in the circular. This statement is delayed for a few days for certain information regarding three of the districts, which has been called for. Meantime I am desired to submit at once the above proposal for the allotment, and, with reference to paragraph 5 of the circular, to state that it is considered the sums above specified can be expended with benefit on the works named during the current official year.

3. The full statement will be forwarded as soon as the information called for has been received.

* Funds for metalling could not be allowed for these two roads out of the present allotment.

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Enclosure 11, in No. 56.

No. 4274, dated 2 December 1861.

From Lieutenant Colonel *H. Yule*, Secretary to Government of India, Public Works Department, to Secretary to Government of Punjab, in the Public Works Department.

IN expansion of my telegram of this date, and with reference to Public Works Department Circular, No. 90 of 9th October, and your letter, No. 2518 of the 11th ultimo, I am directed to say that the Governor General in Council is obliged to retract the intention intimated in that circular, so far as relates to an extra grant to the Punjab of 75,000 rupees.

* See P. W. D. No.
3798 of 25 Oct.

2. Since that circular was issued, the mistake regarding the expected saving on the Punjab Railway Land Budget has been made manifest, and the grant of one lakh to the Lahore and Peshawur Road* has had in consequence to be made from the reserve at the disposal of this department. As other inevitable demands have come on that reserve, it has been reduced to nothing, and it is absolutely necessary to withhold the intended grant, in order to re-establish a small reserve.

3. Captain Sim's Report, forwarded with Punjab Railway Department letter, No. 204A, dated 13th August 1861, intimated that there would be an actual saving on land purchase of one lakh of rupees. This will not, however, be in any way available to increase Punjab credit, as it has been transferred to Bombay to meet an equal expected excess in the item of Railway land purchase there.

(No. 4275.)

Endorsed by Public Works Department.—To Financial Department, for information.

Enclosure 12, in No. 56.

No. 154, dated 29 October 1861.

From Major *J. K. Spence*, Judicial Commissioner, in Charge Commissioner's Office, Nagpoor, to Secretary to Government of India, Public Works Department.

I HAVE the honour to acknowledge the receipt of Circular No. 90, under date the 9th instant, being an extract from the proceedings of the Right Honourable the Governor General of India in Council, on the subject of granting certain additions to the assignments already made to the several local governments in the Public Works budgets of the current year; the addition proposed for this province, being a lakh and a quarter of rupees, to be devoted to the attainment of more decided progress during the year in opening out facilities for the export trade of the country, and especially for the export cotton trade; but before making this additional assignment definitively, his Excellency in Council desires to receive a brief but precise statement of the objects on which this addition may, with advantage, be expended, and whether it can be so expended during the current year, with reference to which I beg to report as follows:—

2. The roads and communications in this territory, of which the surveys and estimates have already been submitted and sanctioned, are—

Six sections of the Great Deccan Road Division, of which the estimates amount to	Rs.
Three sections of the Eastern Road Division, estimated at	Rs. 3,79,834
Six sections of the Southern Road Division, estimated at	Rs. 1,72,668
	Rs. 3,42,751
TOTAL	Rs. 8,95,253

and the allotment of funds in the current year's budget amounts to—

Great Deccan Road Division.

	Rs.	Rs.
Roads	62,500	1,25,000
Bridges	62,500	

Eastern Road Division.

Roads	31,500	63,000
Bridges	31,500	

Southern Road Division.

Roads	31,500	63,000
Bridges	31,500	

TOTAL Rs. 2,51,000

Besides

Besides which an extra lakh of rupees was subsequently assigned, when the section of the Great Deccan Road from Deolapar to Seonee was transferred from the Jubbulpoor to the Nagpoor Department of Public Works, and that amount it is proposed to dispose of as follows:

	Rs.
For the Kanhan Bridge - - - - -	40,000
With 10,000 rupees added from municipal funds.	
For the road from Deolapar to Seonee - - - - -	40,000
For district roads, i. e. feeders to the main lines - - - - -	20,000
With 20,000 rupees added from the 1 per cent. Road Fund.	

Every effort is being made to push forward the work on the portions of the three great lines already sanctioned, and plans and estimates for a bridge over the Kanhan, to be either of stone, wood, or iron, were submitted some time ago to your office*, the chief engineer having been authorised at the same time to proceed with the construction of the abutment on the north bank of the river, as that work will be required, and will answer for whichever description of bridge may finally be approved of.

* With letter, No. 149, dated 8 Oct. 1861.

3. The above will show the works at present in progress on the main lines of communication, and the funds provided for carrying them on; and, after due consideration of the object for which Government contemplate now assigning an additional grant of a lakh and a quarter, the Commissioner is of opinion that, with the view of increasing facilities for trade, more especially in cotton, the following is the best appropriation or distribution of that amount that can be made, viz.:

	Rs.
For the Great Deccan Road north of Nagpoor - - - - -	20,000
For the Great Deccan Road south of Nagpoor, Boree Bridge portion (sanctioned) - - - - -	20,000
For the Southern Road, in continuation towards Chanda from Koombaree - - - - -	20,000
For District Roads.—From Tulleygaon (west from Nagpoor, near Bishnoor, on the road to Oonraotee), south through Aroee, to Kowtah, the new station on the Wurdah, say 30 miles, at 1,000 rupees a mile - - - - -	30,000
From Hingunghat to Kowtah, with branches to Audoree and Pohana, say 60 miles, at 1,000 rupees* a mile - - - - -	60,000

* The Estimates for this line will be prepared with a view to its being eventually made a 2d class road.

This would give a total outlay of 1,50,000 rupees, being 60,000 rupees for Imperial, and 90,000 rupees for district roads; for the district roads 25,000 rupees would be supplied from the local funds, and the proposed additional assignment from the Imperial funds could not be more advantageously expended than in the manner above set forth, for the Great Deccan and the southern roads are unquestionably the most important for facilitating the export trade, especially in cotton, and the proposed lines, one from Hingunghat to Kowtah, with branches to Audoree and Pohana, and the others from Tulleygaon to Kowtah, would be the best possible feeders for both the great roads, running, as these lines will do, through the richest cotton tracts in the Nagpoor district. Instructions were issued some time ago for having the line from Hingunghat to Kowtah marked out, surveyed, and estimated for; and should his Excellency in Council decide on granting the additional assignment of a lakh and a quarter, it can be expended with great advantage, during the current year, in the manner above proposed.

4. The accompanying sketch map will show the roads at present in progress and the new lines which it is proposed to open.

Enclosure 13, in No. 56.

No. 4270, dated 2 December 1861.

From Lieutenant Colonel *H. Yule*, Secretary to Government of India, Public Works Department, to Commissioner of Nagpoor.

I AM directed to acknowledge your letter, No. 154 of the 29th October, reporting the manner in which you propose to lay out the extra budget grant of 1½ lakh of rupees, which was the subject of Circular No. 90, of 9th October, from this office.

2. Your proposed distribution is as follows:	Rs.
Extra budget grant - - - - -	1,25,000
From local funds - - - - -	25,000
TOTAL - - - - -	1,50,000

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DISTRIBUTION.

<i>Imperial Roads.</i>	<i>Rupees.</i>
To Great Deccan Road, north of Nagpoor - - - -	20,000
To ditto, south of Nagpoor - - - -	20,000
Southern road towards Chanda - - - -	20,000
<i>District Roads.</i>	
From Tulleygaon (west of Nagpoor) south to Kowtah (30 miles) - - - -	30,000
Hingunghat to Kowtah, with branches (60 miles) - -	60,000
TOTAL - - -	1,50,000

3. The Governor General in Council is surprised to find that, notwithstanding late correspondence, there is no allusion in these proposals to the railway, or to the bearing of the proposed district roads upon it. The first district road named above may be a railway feeder, but it is not clear that it is so. I am directed to call attention again to this point, and whilst sanctioning the appropriation of 60,000 rupees out of the extra grant to the Imperial roads named, I am to request that in the distribution to district roads, special attention and preference may be given to the early construction of feeders to the railway.

4. With reference to this, a statement should be given of all the proposed railway stations within the Nagpoor territory, with information as to the feeding roads to these stations which it will be advisable to make.

5. Attention was lately drawn to the opinion of the Bombay Government in favour of a direct road from Hingunghat to the railway.

6. None of the roads should be undertaken without regular survey and demarcation.

(No. 4271.)

Endorsed by Public Works Department.—To Financial Department for information.

Enclosure 14, in No. 56.

No. 1020, dated 29 October 1861.

From Lieutenant *S. T. Trevor*, Assistant to Chief Engineer, Pegu, Tenasserim and Martaban Provinces, in charge Chief Engineer's Office, to Secretary to Government of India, Public Works Department.

I AM directed by the Commissioner of Pegu and agent to the Governor General to acknowledge receipt of your Circular No. 90 and Telegram No. 184, dated the 9th and 10th instant respectively, intimating the intention of Government to add $\frac{2}{3}$ of a lakh of rupees to the Public Works assignment of Pegu for the current year, if that sum can be expended with benefit within the year in opening out facilities for the export trade of the country, and I am directed to report in reply that the additional grant can be expended with great advantage to the province on the two following works, viz. :—

1st. Improvement of the water communication between the Pegu and Sitang Rivers, 30,000 rupees.

2d. Bunds in the Henzada District to prevent inundation of the country adjacent to the River Irrawaddy, 45,000 rupees.

2. The first of these projects has already been laid before Government. Its importance is fully admitted in para. 21 of Proceedings of the President of the Council of India in Council, No. 396, dated 9th February 1861, and in the Budget Orders of the current year, a sum of 50,000 rupees was at first reserved for it, though afterwards assigned away to other works. This reservation was made, it is supposed, for the larger project of a canal which Mr. Login was called upon to submit; for the mere improvement of the existing creeks, which was proposed as a cheap and ready means of carrying out the project, was only estimated by Mr. Hyde to cost 14,583 rupees.

3. The Commissioner is very desirous that some progress should be made with this project this season. The necessity for it has now become urgent, consequent on the arrangements which have recently been made for working the forests on the Sitang on the permit system. It is essential to the success of these arrangements that the obstacles which the present state of the water communication presents to the ready transit of timber to the Rangoon market should be removed. It seems to be agreed by all parties interested in the matter here, that all present purposes will be answered by the improvement of the existing creeks at a comparatively small expense, which might soon be reimbursed by a toll

toll levied on the timber passed through the creek. And in this the Commissioner concurs, without, however, wishing to detract in any way from the merits of the larger project of a canal, the future necessity of which might still be left an open question. But this canal, whenever it might be determined on, would take several years to construct, whereas the present want of an improved water communication must be met at once, and on these grounds the Commissioner trusts that sanction will be accorded to Mr. Hyde's project for deepening the Pyne Kyeen Creek, which could then be carried out during the ensuing dry season.

4. Since the submission of Mr. Hyde's project, the anticipations then formed as to the natural improvement of the creek by lapse of time, have been so far realised as to place the success of the project almost beyond doubt. The protective measures then adopted, viz., the prohibition to erect fishing dykes and other obstructions in the bed of the creek, have resulted most beneficially, and now the creek is much freer for navigation than it ever was before. I am to annex copy of a report regarding it by Dr. Brandis, Superintendent of Forests in Pegu. It is in accordance with Dr. Brandis's suggestion that some of the sinuosities of the creek should be cut off, as well as its bed deepened, that the enhanced estimate of 30,000 rupees has been set down above for the work.

5. With regard to the second project, viz., the bunds in the Henzada District, I am directed to report that it is rather a repair than an original work, being chiefly for the reconstruction of a bund 6,648 feet long, 25 feet broad at base, and 8 feet at top, and 7 feet high, which was completely carried away at the latter end of last July. The new bund will have to be built on a somewhat larger scale, to avoid the possibility of its being carried away again. It is now being regularly surveyed and estimated by Mr. Hyde.

6. The damage caused to the cultivation by the destruction of this bund is estimated to result in a loss to the revenue of not less than 20,000 rupees, and this sum would be annually lost to the revenue if the bund were not reconstructed.

7. It is not anticipated that more than 30,000 rupees of the sum set down above for this work will be required for this particular bund, but there are several other bunds which require repair and strengthening in many places before the next rainy season sets in, to secure them from the possibility of giving way like this one, and causing a loss of revenue. Mr. Hyde has been directed to survey and report on all these after he has completed his work at the Henzada Bund, and estimates will be submitted in due course as soon as they can be got ready.

No. 278 J L B, dated 27 May 1861.

From Dr. D. Brandis, Superintendent of Forests, Pegu, Tenasserim and Martaban Provinces, to Commissioner of Pegu and Agent to Governor General.

WITH reference to my letter, No. 61 D, dated Rangoon, 28th October 1858, proposing that in case no regular canal was constructed to join the Pegu and Sitang Rivers, steps should be taken to improve the present line of communication, I have the honour to report to you that since that time I have repeatedly visited the locality, both in the rains and during the dry season, last on the 13th April, when returning from the Martaban Beeling forests.

2. The result of my observations is, that the present channel (Pyne Kyeen and Kayasson Creeks) has of late considerably improved. The effects of this improvement have been as follows:—

The present channel has improved.

1. The land along the creeks is better drained. The extent of paddy cultivation near Kayasson has increased, and in several places higher up the creek, cultivation has been commenced, or is about to be commenced, in localities which in 1857 and 1858 I myself saw deep under water. In April last the first houses of a new village had been built between Yaggyoe and Kayasson, in the centre of a tract thus rendered available for cultivation.

Near Tanbjit Than-beer.

The inhabitants of the locality add that the Wohchoung, a creek running due north from the place mentioned, has, since the deepening of the Kayasson Creek, changed its fall so far that now the greater length drains into the Kayasson Creek, instead of, as formerly, to the north. It always was a creek with double fall, but the fall to the Kayasson Creek was formerly scarcely perceptible.

2. Seventy logs of timber passed the creeks in December last several weeks after the time when the passage usually is closed. Boats have gone through during spring tides as late as March, when the passage was stopped by a large boat sticking in the mud at the shallowest part of the line. On the 13th of March, five days after the high tides of the new moon, I saw a current of water several inches deep, run over the highest part of the line in the direction of the Pegu River. Formerly spring tides only overflowed this part, meeting the Pegu River tides near the village of Kyaypadine.

I.
India.

Causes of this improvement.

3. The cause of this improvement I attribute, first, to the continuous traffic of timbers and boats through those creeks (in 1857 a considerable portion of the Government timber was brought through the Debry or Kammabah Creek, and not through the Kayasson Choung. Since 1859 all rafts and boats take the latter course); second, to the effects of your order prohibiting the leasing out of fisheries in these creeks, which has put a stop to the erection of dykes, dams, and weirs of timber and earth-work across the creeks which, up to 1857, seriously impeded navigation, the floating of timber, and ultimately threatened to cause the silting up of the creeks.

Renewal of former proposal to deepen the channel.

4. I beg now to repeat my original proposal, viz., that the plan for improving the existing line of communication by deepening it might be carried out.

Captain Newmarch has kindly communicated to me the report on this project by Mr. Hyde, and his own report to you on the same subject.

He has also informed me that Mr. Hyde's estimate for deepening the creek amounts to 15,000 rupees; further, that the Supreme Government has declined to sanction the project.

The outlay to be recovered by imposing a toll on timber.

5. But if, after the completion of the work, a toll were levied on timber alone, an outlay of 15,000 rupees could be recovered in one year.

The import from the British forests on the Sitang has been as follows:—

					<i>Logs.</i>	<i>Tons.</i>		
1856-57	-	-	-	-	-	11,665	8,390	By Government contractors.
1857-58	-	-	-	-	-	2,259	2,197	
1858-59	-	-	-	-	-	4,365	3,504	
1859-60	-	-	-	-	-	1,339	1,129	
1860-61	-	-	-	-	-	1,073	not known; by permit holders.	

To judge from the arrangements made by permit-holders this year, 7,000 logs may be expected from the Government forests, and to judge from what has transpired regarding the arrangements made beyond the frontier, 3,000 may arrive from the King's forests. This would yield, if a toll of two rupees per log were levied, the sum of 20,000 rupees.

The adoption of this plan would enable you to execute Mr. Hyde's plan by means of local funds, nothing being required but an advance, to be repaid within one or two years, and the levying of this toll for a succession of years would render it possible to carry on works which might ultimately make the creeks navigable throughout the year.

Difficulties in bringing timber through the creeks.

6. In explanation of this, I beg to be permitted to offer the following remarks:—The present line of communication between the Sitang and Pegu Rivers is a creek with double slope; the Kayasson Creek has a short and rapid fall towards the Sitang River, the Pyaikyan Creek has a long and slow descent towards the Pegu Choung. On the water shed near the Tobjet Palmyra tree, the water is almost still. In the floating of timber from the Sitang to the Pegu River there are two difficulties. The ascent up the Kayasson Creek on to the plains near the Palmyra tree can be effected during spring tides, and even then elephants must sometimes be employed. And during the greater part of the dry season, even spring tides do not rise sufficiently high, and, secondly, there is not, as a rule, even during spring tides, sufficient water in the creek during the dry season to float timber through to the Pegu River.

Without the help of elephants only,

Add to this that the high winds prevailing from May to August render the floating of timber from Shoay Gyeen to Kayasson dangerous, and that hence most timber reaches Kayasson towards the end of the rains, or during the dry season, so that unless the transit can be effected at once, it has to be kept for several months, often for nearly a twelvemonth.

Advantage arising to importers of timber estimated at Rs. 3 per log.

7. It is clear that if the execution of Mr. Hyde's project ensures a channel throughout, five feet below high water mark in the Sitang River, and only three feet above low water mark, the ascent will in the rains be easy for timber at all tides; there will at the same time be sufficient water in the channel to float middle-sized logs through during all spring tides of the year.

I estimate that the saving in actual outlay for floating, watching, and re-rafting of the logs, will amount to one rupee per log, and the advantage of being able to bring the timber to market at once may, I believe, safely be put down at five per cent. on the value of the timber. The average value of a log taken at 40 rupees gives a discount of two rupees, add to this the saving of actual outlay, and it will be understood that if the above facilities are given, parties importing timber into Rangoon will be the gainers, although the toll were paid at two rupees per log.

As all importers of timber are now private parties, since the introduction into the Sitang Forests of the permit system, I had expected that perhaps a private company might be formed to undertake the works in question, provided permission were granted them to levy a toll on timber for a limited number of years. But though they are very anxious to see the improvement effected, it does not seem to be likely that such a company will at present be formed.

Prospective improvements.

8. If Government retains this work in its own hands, the advantage will be gained, that the full net amount of the toll levied can be devoted to the works and to an annual improvement of the same, until the point is gained at which a continuous stream will flow through the channel from the Sitang to the Pegu River.

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But if this end is contemplated, short cuts will in many places have to be made, instead of following the circuitous course of the present channel. This will entail a greater expense in the beginning, but be a saving in the end. It is necessary to touch on this subject here, as the expense of the first works will depend on it; but not having seen Mr. Hyde's estimates and plans, I can only speak in a very general way.*

At the most shallow part of the creeks near the water shed, the channel bends considerably to the west, skirting the ground when paddy cultivation is about to commence. The length of the short cut would be upwards of 7,000 feet, whereas the length of the present channel is 10,400 feet. It might be found advantageous in several respects to cut straight through, instead of following the present course. This would increase the scouring influence of the tides, and render deeper excavations hereafter less expensive.



NOTE.—The draining off the water of the spring tides is another difficulty, if the end of the existing channel is to be deepened, especially during the cold season, when drinking water is less scarce than during March and April, and hence the maintenance of workmen easier.

I.
India.

But it would probably raise the outlay of the first year from 25,000 rupees to 30,000 rupees.

Rate.—Rs. 1 for 100 cubic feet.
Dimension.—Middle width 25 feet.
Depth (over) 12 feet 7' x 5'.
Length 7,000.
Rs. 3 per running foot.
● Total Rs. 21,000 for 7,000 feet.

9. I would therefore suggest that the proposal be framed so as to obtain from Government the sanction to an advance of 30,000 rupees, to be repaid within two years by means of a toll on timber (and boats), and to be expended on the execution of Mr. Hyde's project, modified so as to ensure whenever practicable a shorter route. Final proposals.

10. In conclusion, I beg to add, that I have attached hereto (in original), a correspondence on the same subject between Mr. W. Wallace and my deputy, Mr. Leeds. Mr. W. Wallace's letter on the subject. The representation of the state of the creeks by Mr. Wallace is not quite correct. I have written my remarks across his letter.

Enclosure 15, in No. 56.

Letter from Pegu, No. 1201, dated 29 November 1861.

(Not at hand; will follow by another opportunity.)

Enclosure 16, in No. 56.

No. 240, dated 9 December 1861.

Telegram.—From Lieutenant-colonel *H. Yule*, Secretary to Government of India, Public Works Department, to Commissioner of Pegu, and Agent to the Governor General.

THE Governor General has sanctioned an extra lakh for this year for Rangoon Barracks.

Enclosure 17, in No. 56.

No. 4483, dated 23 December 1861.

From Lieutenant Colonel *H. Yule*, Secretary to Government of India, Public Works Department, to Commissioner of Pegu, and Agent to the Governor General.

IN reply to letter No. 1020, dated 29th October last, from Lieutenant Trevor, assistant to the chief engineer, I am directed to inform you that, in consequence of the necessity for an assignment of one lakh to the Rangoon Barracks, which was sanctioned in my telegram dated 9th instant, it will not be possible to grant the 75,000 rupees which was proposed to be given as an extra budget assignment in Public Works Department, Circular No. 90 of the 9th October. There will, therefore, be no such grant.

* These documents are not at Rangoon at present.

I.
India.

(No. 4484.)

Endorsed by Public Works Department.—To Financial Department for Information.

Enclosure 18, in No. 56.

No. 160, dated 27 September 1861.

From Lieutenant Colonel *C. Davidson*, C. B., Resident at Hyderabad, to Secretary to Government of India, Public Works Department.

I HAVE the honour, with reference to your letter No. 3337, dated 17th September 1861, to forward copies of correspondence and Proceedings of a Committee assembled by me to report on the roads necessary as feeders to the Railway in Berar.

Enclosures.
1. From 2d Asst. Resident, to Commr., Hyderabad Assigned Districts, No. 1034, dated 20 August 1861.

2. From Asst. Commr. in charge Commr's Office, Hyderabad Assigned Districts, No. 2059, dated 19 September 1861, with enclosure.

3. From 1st Asst. Resident to Offg. Chief Engineer, No. 688, dated 27 September 1861.

2. I shall have the honour, after communicating with the Public Works Department, and receiving the necessary plans, estimates, and specifications, also a sketch map showing the different lines, hereafter to report on the roads where I consider it would be most advisable to commence operations.

3. It is, however, clear to me that the road from Nursees to Woon, to join the Wurdah, is one essentially necessary for the furtherance of the project for the navigation of the Godavery; and I have instructed the Public Works Department to have the road at once marked off, and surveyed.

No. 1034-278, dated 20 August 1861.

From *H. Fraser*, Esq., Second Assistant Resident, to Commissioner, Hyderabad Assigned Districts.

I HAVE the honour, by desire of the Resident, to acknowledge the receipt of your letter, No. 1025, dated the 9th August 1861.

2. The Resident was disappointed to learn from your letter that the deputy commissioners and executive engineer were not possessed of so much information on the subject as he had hoped would be available; but he is still of opinion that it would be desirable to assemble the committee, with a view to the subject being duly considered and reported on, and he requests therefore that you will be so good as to carry out the instructions conveyed in letter No. 967, dated the 2d instant.

3. As it would be inconvenient to you, in consequence of your illness, to preside, Colonel Davidson approves of your proposal to require the proceedings to be submitted to you for your remarks, prior to their transmission to this office.

No. 2059-301, dated 19 September 1861.

From Captain *W. Cadell*, Assistant Commissioner, in charge Commissioner's Office, to First Assistant Resident at Hyderabad.

* With a map.

I HAVE the honour to forward the proceedings* of the Committee, assembled in accordance with the instructions contained in your letter, No. 1034, of the 20th ultimo, for the purpose of suggesting a system of roads for Berar.

2. The Committee have recommended the construction of 14 roads, which, in their opinion, will be the most useful for conveying the produce of the country to the railway stations.

3. It appears to be admitted that roads which cannot be used throughout the year would be of little or no use as feeders to the railway, and the Committee have therefore recommended that any roads which may be made should allow of traffic passing over them during the monsoon. Captain Tyrrell estimates the expense of the 68 miles of road which it is proposed to construct, first, at five lakhs, so that it would cost about 40 lakhs to complete the whole of the roads recommended; and it becomes a question whether, even supposing the necessary funds were available, the advantages to be gained would be commensurate with so great an expenditure.

4. It is not the case in the valley of Berar, as in some parts of India, that cart traffic is impossible without made roads. During the dry weather carts traverse the whole of it easily, so that the very expensive roads, which alone it is considered advisable to construct, would merely enable traffic to be continued during the five monsoon months, in which at present it is closed.

5. Cotton, which is the principal export, is ready in sufficient time to permit almost all of it being sent to Bombay on carts before the rains commence, and with the greatly increased

increased facilities which will be afforded by the railway, there will, I imagine, be no difficulty in exporting the whole of the cotton during the dry weather. The same remark applies to grain and oil seeds.

6. The roads from Akote to Akolah, and from Moresee to Budnaira, are probably the most important as feeders to the railway; but, in a military point of view, those connecting the troops at Ellichpoor and Hingolee with the railway would appear to be of the most consequence.

7. Mr. Darke suggested that instead of bridges, causeways, with sufficiently large sluices to carry off the ordinary flow of water, should be constructed. The roads would then be passable throughout the year, except during the floods; and Mr. Darke thought that the cost would be very materially diminished. This question is one that must be decided by professional engineers; but the suggestion appears to be well worth taking into consideration.

8. The Committee were not in possession of any information regarding the navigation of the Godavery. They did not know to what point it was navigable, nor to what point it and its tributaries are intended to be made navigable, and it was therefore out of their power to suggest any system of roads to facilitate the carriage of produce to that river.

Dated 12 September 1861.

PROCEEDINGS of a Committee, ordered to assemble at Akolah, for the Investigation of the subject of Roads, as Feeders to the Bombay and Nagpoor Railway, in the Berar District.

The Committee is composed as follows:—

PRESIDENT: Captain F. Tyrrell, Ex. Engineer, Berar.

MEMBERS: Captain Cadell, Officiating Deputy Commissioner, West Berar; Captain Allardyce, Officiating Deputy Commissioner, East Berar; J. E. Darke, Esq., District Engineer, G. I. P. Railway.

The President and Members being all present, the order of the Commissioner directing the assembly of the Committee is read.

EXTRACT of a Letter from the Commissioner to Captain F. Tyrrell.

“I have the honour to inform you, that the Resident has ordered the assembly of a Committee, of which you are to be the President, and of which the Officiating Deputy Commissioners (East and West Berar), and Mr. Darke, railway engineer, are to be members, to assemble at Akolah, to determine upon a system of roads in Berar as feeders to the railway.”

The Committee proceed to take into consideration the subject of roads as feeders to the Bombay and Nagpoor Railway, in the Berar district.

Letter from the Resident to the Commissioner, No. 466, and letter No. 1244, from the Resident to the Chief Secretary to Government, Fort St. George, having been read, and the Committee having discussed the question in all its bearings, recommend the following as a general system of roads:—

The roads are entered in what the Committee consider the order of their importance.

	Miles.
1st. Akolah railway station to Akote, West Berar, about - - -	29
2d. Budnaira railway station to Moresee, East Berar, about - - -	39
3d. Sheogaum railway station to Bawunbeer, West Berar, about - - -	24
4th. Chandpoor railway station to Julgaon, West Berar, about - - -	16
5th. Moortoozapoor railway station, through Durreepoor to Ungen- gaum, East Berar, about - - - - -	29
6th. Sheogaum railway station, through Khangaum to Maikur, West Berar, about - - - - -	48
7th. Akolah railway station, through Pathoor and Bassim to Hingolee, West Berar, about - - - - -	71
8th. Chandoor railway station, east of Budnaira to Koora, East Berar, about - - - - -	10
9th. Woon to the Wurdah, towards Hinenghat in the Nagpoor territory, East Berar, about - - - - -	15
10th. Budnaira railway station to Ellichpoor cantonment, East Berar, about - - - - -	35
11th. Moortoozapoor railway station, through Kurrinhah to Poosud, East Berar, about - - - - -	57
12th. Chandoor railway station, through Tulleygaon to Woon, East Berar, about - - - - -	94
13th. Budnaira railway station, through Nair to Pain-Gunga, East Berar, about - - - - -	76
14th. Sheogaum railway station to Bullapoor, West Berar, about - - -	8
TOTAL - - - - -	551

I.
India.

Regarding this system of roads, the Committee would remark, that it has been proposed as joining the chief towns and the richest districts with the railway. No statistics of traffic are procurable, to enable the Committee to anticipate the probable result of the formation of any particular road.

The Committee recommend that all the roads should be made fit for cart traffic throughout the year, and that Nos. 1 and 2 should be first undertaken, viz., from Akolah to Akote, and from Budnaira to Moresee; these roads are proposed to be made first-class throughout, with metal and bridges, and as there would probably not be sufficient funds to build all the bridges, it is proposed at first to provide for crossing the worst streams in the most economical way. The roads might be at first metalled only in the worst parts, should there not be sufficient funds. The Committee recommend that all roads should be first-class, as they are of opinion that otherwise they would not be passable in the rains, or during five months of the year.

The President of the Committee calculates that the cost of these two roads would be, with metal and bridges, about 5,00,000 rupees. The rest of the roads it is proposed to finish after these have been constructed, unless funds can be provided for their earlier construction.

The Committee proceed to consider the subject of the system of roads as connected with the navigation of the Godavery. The Committee having no information at present regarding the progress of the works connected with the navigation of the Godavery, nor the general plan of the scheme proposed, would leave the question for future consideration. Roads can be of but little good until the navigation of the Godavery and its tributaries is perfected. It is not known by this Committee how far inland the Godavery has been made navigable, and until the passage of boats to within a short distance of Woon shall be possible, roads in Berar would be scarcely advisable. It is very improbable that any goods will be sent by a mixed slow land and water carriage, to a distant and unknown port like Cocanada, when there shall be a continuous and quick land carriage to the accustomed Port of Bombay. This question should therefore be brought under consideration when the navigation of the Godavery shall be more fully developed.

No. 1244, dated 13 August 1861.

From Lieutenant Colonel *C. Davidson*, C.B., resident at Hyderabad, to Chief Secretary to Government of Fort St. George.

IN acknowledging the receipt of Mr. Secretary Sims's letter as per margin, with accompaniments, I beg to state that I purpose having a road constructed from Nursee *viâ* Hingolee and Woon to the nearest point on the Godavery, close to Hingunghat, as well as one from Oomrawutee *viâ* Kurrinjah to Woon.

No. 1137, dated 21 June 1861, forwarding papers regarding the navigation of the Upper Godavery, and the repairs of the main roads leading to the river.

2. The construction of these two roads will open the produce of the Ballaghat and of the Valley of Berar to the Godavery.

3. I beg to add that I have twice addressed the minister regarding the roads through his Highness's territories directly under the native government, but have not as yet been favoured with a reply.

No. 466-18, dated 15 August 1861.

From *H. Fraser*, Esq., Second Assistant Resident, to Commissioner, Hyderabad Assigned Districts.

I HAVE the honour, under instructions from the Resident, to acknowledge the receipt of your letter, No. 723, dated the 7th August 1861, and to state that, before issuing any instructions upon the subject of constructing roads as feeders to the railway in Berar, the Resident would wish to be favoured with the report of the Committee, which you were requested to assemble in letter No. 967, dated the 2d instant.

2. The Resident is disposed to agree with you in the opinion that the making of roads in Berar of an inferior description is not advisable, and from the letter now under reply, the local officers do not seem to be possessed of sufficient reliable information to warrant the expenditure of the large sums that would be required to construct roads in this valley, so as to ensure their being available for monsoon traffic.

3. Probably having determined upon certain lines, it would be wise in the first instance simply to make them out as fair-weather roads, and construct bridges over the nullahs; but the Resident would wish the subject to be considered and reported upon in all its bearings by the Committee above referred to.

4. Colonel Davidson would also be obliged by your calling the attention of the Committee to the fact that we have to consider the interests of the Godavery navigation as advocated by the Madras Government, as well as the requirements of the railroad in a general scheme of this nature. He is led to notice this from the fact of "Woon" having been omitted in all the executive engineer's proposals, and it was with reference to having the communications with the Godavery opened that caused the instructions to be issued contained in my Despatch, No. 269 of the 13th instant.

No. 1066, dated 26 August 1861.

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India.From Major *T. A. Cowper*, Commissioner, Hyderabad Assigned Districts, to
Ex. Engineer, Berar.

I HAVE the honour to inform you that the Resident has ordered the assembly of a committee, of which you are to be the president, and of which the Officiating Deputy Commissioners, East and West Berar, and Mr. Darke, railway engineer, are to be members, to assemble at Akolah, to determine upon the system of roads in Berar, as feeders to the railway.

2. Two letters from the 1st Assistant Resident, conveying the Resident's instructions regarding the points to be considered, are annexed for information and guidance.

To the Madras Government, No. 1244, dated 13 August 1861.

3. Lieutenant Allardyce has been this day requested to proceed as soon as possible to Akolah, and to let you know the probable date of reaching it.

To the Commissioner, No. 466, dated 15 idem.

4. The committee should assemble as soon as possible, its proceedings being forwarded to me by express, and the members remaining at Akolah until the receipt of my reply.

5. I send herewith the map (to be returned) received from you lately, which may be of use to the committee.

6. You should let Mr. Darke know when the committee will assemble.

No. 638—350, dated 27 September 1861.

From *A. R. Thornhill*, Esq., 1st Assistant Resident, to Officiating Chief Engineer,
Hyderabad, Public Works Department.

I HAVE the honour, by desire of the Resident, to forward for your information and guidance a letter* and proceedings of a committee, in original, received from the Assistant Commissioner, in charge of the Commissioner's office, and to request that you will direct plans, estimates, and specifications to be prepared for roads marked 1 and 2, providing for the bridging of the nullahs, and that the worst part be metalled, and marking out the rest of the road, with the usual side drains, which from the committee's report it would appear is all that will for the present be necessary to render these two roads passable at all seasons of the year.

* No. 2059, dated 19th September 1861 (to be returned).

2. You will be good enough also to direct the surveying and marking out of a road from Nursees *via* Hingolee and Omerkhair to Woon, and the nearest point to it on the Wurdah, with a view to opening out the Ballaghat, Berar, and the Talooks recently assigned by the Hyderabad Government to British management, to the projected scheme for the navigation of the Godavery.

3. I am directed to request that you will order a sketch map to be prepared, showing the different lines of road, as specified in the committee's report, and also the one mentioned in paragraph 2, from Nursees to Woon.

4. It would be well that this map should, as accurately as possible, define the new frontier of the whole assigned territory.

Enclosure 19, in No. 56.

No. 189, dated 31 October 1861.

From Lieutenant Colonel *C. Davidson*, C.B., Resident at Hyderabad, to Secretary to
Government of India, Public Works Department.

I HAVE the honour to acknowledge the receipt of your Circular letter No. 90, dated 9th October 1861, intimating that the Government of India have assigned half a lakh of rupees to the Hyderabad territory for opening out facilities for the export trade of the country, more especially in cotton.

2. The officiating chief engineer, Hyderabad, with whom I have communicated on the subject, has submitted a statement with a sketch, which I herewith beg to enclose, showing the lines of road on which he would propose to expend the grant in question.

3. He states that at this season much may be done by expending this sum judiciously, as all the lines of road in Berar which he has named have been fixed upon by the committee as the most necessary roads to feed the railway; that any money now spent in marking them out and improving the banks of streams will be so much saved out of future estimates for the construction of these roads; and adds that his object in suggesting that a small expenditure should be undertaken on the two roads running south from Akolah and

I.
India.

Budnaira, is to put them in immediate connection with the Nagpoor Dawk line, until such time as the railway is completed.

4. The Government of India have already before them my Despatch No. 160⁷ of the 27th September last, with the report of the committee alluded to by the officiating chief engineer. I quite agree with Captain Michael in the proposal to expend the grant of 50,000 rupees on the Berar roads, and think that upon no other projects than these could the present opportune assignment be laid out with greater advantage.

STATEMENT showing the Proposed Expenditure of 50,000 rupees for immediately facilitating Traffic in the Berar Division.

		Rupees.	
1	Tracing and opening out road, and sloping banks of the most impracticable streams between Akote and Akolah Railway Station (29 miles), at 250 rupees per mile - - - - -	7,250	The lines from Akote to Akolah (proposed railway station), and from Morsee to Budnaira (proposed railway station), run due south, opening out the most northern part of Berar, and are described by the road committee which lately assembled in Berar, as the most important lines of all. To facilitate traffic immediately, it is proposed to continue these lines as far as the Nagpoor Dâk line at Mallagaum and Peepree.
2	Continuing this line to Mallagaum, on the Nagpoor Dâk line (32 miles), at 150 rupees per mile - - - - -	4,800	
3	Tracing and opening out road, and sloping banks of the most impracticable streams between Morsee and Budnaira Railway Station (39 miles), at 250 rupees a mile - - - - -	9,750	
4	Continuing this line to Peepree, on the Nagpoor Dâk line (20 miles), at 150 rupees a mile - -	3,000	The line from the Godavery <i>viâ</i> Woon, Poosud, and Hingolee to Nursee, runs nearly parallel with the Nagpoor Dâk line, and will open out the whole of the recently acquired rich country of South-east Berar, the produce of which could pass up to the Nagpoor Dâk line from Hingolee <i>viâ</i> Bassim, and so on to the coast until such time as the Godavery is opened to navigation.
5	Tracing and opening out road from the Godavery near Hingunghat <i>viâ</i> Woon, Poosud, Hingolee to Nursee (145 miles), at about 172 rupees per mile - - - - -	25,000	
		49,800	
	Add to make round numbers - - - - -	200	
	TOTAL - - - Rs.	50,000	

Chief Engineer's Office, Bolarum, }
26 October 1861.

J. Michael, Officiating Chief Engineer,
Hyderabad, Department, Public Works.

Enclosure 20, in No. 56.

No. 4178, dated 23 November 1861.

From Lieutenant Colonel *H. Yule*, Secretary to Government of India, Public Works Department, to Resident at Hyderabad.

* No. 160, dated 27th Sept. 1861, and No. 189, dated 31st Oct. 1861.

I AM directed to acknowledge your letters* communicating the report of a committee on roads required in Berar, and your proposals for spending the additional assignment of half a lakh lately offered by Government for expenditure on improved communications during the present year.

2. The Governor General in Council approves of the first part of your proposal, that is, to the expenditure of 26,000 rupees on the improvement of the two lines perpendicular to the railway from Morsee and from Akote, the money being devoted first to the worst parts of the lines. This rule should be generally observed, ghats and passes being improved before the bridging of nullas in the plains is attempted, and bridges and drains taking precedence of the complete formation of the road across country which is passable in fine weather.

3. With regard to the other line running east and west through the southern part of Berar, it appears to the Governor General in Council to be of more present importance to work eastward from the main line of road (the Nagpoor dâk line), so as to facilitate present traffic towards Bombay. The whole line is very extensive, and it appears doubtful if much good would result from spending now any part of this grant on the eastern portion of the line.

4. The Governor General in Council observes that the committee's report is meagre, and communicates very little substantial information, giving no indication of the nature of the country, or the traffic on the different lines mentioned by them.

5. Copies of the papers have been sent to the Bombay Government, with the letter of which a copy accompanies, and the Government of India will consider the reply of that Government before deciding on what more expensive measures are to be taken in reference to the communication with Bombay.

Enclosure 21, in No. 56.

No. 4177, dated 23 November 1861.

From Lieutenant-Colonel *H. Yule*, Secretary to Government of India, Public Works Department, to Acting Secretary to Government of Bombay, in the Public Works Department.

I AM directed to send for the perusal of the Government of Bombay papers* received from the Resident of Hyderabad, chiefly regarding feeders to the railway in Berar, with the reply of this Government. I am to request the favour of an early communication of the opinion of the Government of Bombay as to the works which are in their judgment most pressing for improving the communication of Berar and the cotton marts in the western part of the Nizam's dominions with Bombay, with respect to short feeders perpendicular to the railway in Berar; to a communication *vid* Khamgaon to the railway further west; and to the improvement of the road by Ahmednuggur.

* No. 160, dated 27th Sept. 1861, and No. 189, dated 31st Oct. 1861.

2. The Resident in a former communication reported that the Bombay Government had abandoned the intention of surveying a road from Aurungabad *vid* Khamgaon to Lasulgaon on the railway. This was probably in consequence of the intention to establish a Bombay brigade at Aurungabad being given up. But the Governor General in Council is under the impression that a good road is required in this general direction from the cotton marts in the west of the Nizam's dominions to the railway, and will be glad to have the views of his Excellency the Governor in Council on the subject.

Enclosure 22, in No. 56.

No. 225, dated 2 December 1861.

Telegram.—From Lieutenant-Colonel *H. Yule*, Secretary to Government of India, Public Works Department, to Resident at Hyderabad.

How much money do you ask for military buildings for remainder of current year? See my letter, No. 4040, of 16th November.

Enclosure 23, in No. 56.

Dated 3 December 1861.

Telegram.—From Lieutenant-Colonel *C. Davidson*, C.B., Resident at Hyderabad, to Secretary to Government of India, Public Works Department.

YOUR telegram of 2d received. One lakh of rupees will enable us to maintain fair progress with military buildings for remainder of current year. Details by post.

Enclosure 24, in No. 56.

No. 4446, dated 20 December 1861.

From Lieutenant-Colonel *H. Yule*, Secretary to Government of India, Public Works Department, to Resident at Hyderabad.

I AM directed to acknowledge the receipt of your telegram dated 3d instant, reporting that one lakh of rupees would be sufficient to maintain fair progress with military buildings at Hyderabad for the remainder of the current year. The Governor General in Council has been pleased to sanction the grant of that amount as an additional assignment for 1861-62.

(No. 4447.)

Endorsed by Public Works Department—To Financial Department for Information.

I.
India.

Enclosure 25, in No. 56.

No. 161, dated 17 October 1861.

From Captain *A. Fraser*, Superintendent, Alguada Reef Lighthouse, to Secretary to Government of India, Public Works Department.

WITH reference to the last paragraph of extract proceedings of the Right Honourable the Governor General in Council, No. 2,649, dated 23d July 1861, I have the honour to inform you that the estimate and plans for the Double Island lighthouse are in a forward state, and that I intend to ask for 50,000 rupees for this work during the year 1862-63. The estimate and plans will be submitted previously to the date required in the new budget rules, and I purpose submitting for the year 1862-63 a regular budget, according to the orders in those rules.

2. I have the honour, however, to bring to your notice that Government will lose much by putting off the commencement of the lighthouse to May 1861. I shall have no money till then, and I shall consequently be unable to do anything previously; the consequence will be that, during this north-east monsoon (1861-62), I shall not be able to make any preparations for materials; the south-west monsoon of 1862-63 will thus be lost, as I shall have money, but no materials; the north-east monsoon of 1862-63 will be lost in the preparation of materials, and it will not be till the south-west monsoon of 1863-64 that I shall be able to even make a commencement of building. Nearly all benefit as regards expense in carrying on the two lighthouses together, which I have (I am afraid rather pertinaciously) urged on the Government, will be therefore thrown away, as I confidently hope that the stone-work for the Alguada Reef lighthouse will be altogether completed in the year 1863.

3. I therefore suggest for the consideration of Government that I be allowed 25,000 rupees for the Double Island lighthouse this year, so that I may at once put in hand the preparation of materials, and commence building next south-west monsoon.

4. I should observe that all the out-buildings for the lighthouse will be of brick, and this material cannot possibly be prepared during a south-west monsoon.

5. I understand you are likely to be down in this part of the Bay of Bengal next month, when you will be able to see the plans which I will endeavour to get finished by that time, and if they are approved, I think it would be of great advantage to let me have the sum required to put the work in hand at once, and both lighthouses would then be finished and lighted together.

6. I have already spent about 200 rupees in clearing Double Island to enable me to prepare the plans. I hope this will have the approval of Government. The site of the buildings was covered by a dense jungle.

Enclosure 26, in No. 56.

No. 4277, dated 2 December 1861.

From Lieutenant-Colonel *H. Yule*, Secretary to Government of India, Public Works Department, to Superintendent, Alguada Reef Lighthouse.

WITH reference to your letter No. 161, dated 17th October last, I am directed to inform you that the Governor General in Council has sanctioned an additional grant of 25,000 rupees this year for the preparation of materials, &c., for the lighthouse on Double Island.

(No. 4278.)

Endorsed by Public Works Department—To Financial Department for information, with intimation that the 25,000 rupees will be met out of the reserve in the hands of the Government of India.

Enclosure 27, in No. 56.

No. 4485, dated 23 December 1861.

Resolution—By the Government of India, Public Works Department.

READ Financial Department Resolution, No. 12,314, dated 8th October 1861, sanctioning the grant of 12 lakhs of rupees in addition to the Public Works budget assignment for 1861-62.

Read

Read Public Works Department Circular No. 90, dated 9th October, intimating the proposed distribution of the additional assignment among the several provinces, and calling for a precise statement of the objects on which it is proposed to expend the money.

Read replies to the above Circular from the following Governments:—

Madras	-	-	-	No. 2146,	dated 19th November 1861.
Bombay	-	-	-	5980,	4th "
Bengal	-	-	-	95,	11th "
North Western Provinces	-	-	-	3569A,	23d "
Punjab	-	-	-	2518,	11th "
Nagpoor	-	-	-	154,	29th October "
Pegu	-	-	-	1020,	29th "
Hyderabad	-	-	-	189,	31st "

Read the following orders upon the above replies:—

To Madras	-	-	-	Telegram No. 246,	dated 18th December 1861.
" Bombay	-	-	-	Letter " 4266,	2d "
" Bengal	-	-	-	" 4272,	2d "
" North Western Provinces	-	-	-	" 4268,	2d "
" Punjab	-	-	-	" 4274,	2d "
" Nagpoor	-	-	-	" 4270,	2d "
" Pegu	-	-	-	" 4483,	23d "
" Hyderabad	-	-	-	" 4178,	23d November "

Read letter from Government of Madras, No. 2144, dated 19th November 1861, applying for further funds for the operations on the Upper Godavery.

Read reply No. 4473, dated 23d December 1861, sanctioning an additional lakh.

Read a letter from the Chief Engineer, Pegu, No. 1201, dated 29th November 1861, applying for an additional lakh of rupees for providing increased accommodation for European troops at Rangoon.

Read a telegram No. 240, dated 9th December 1861, sanctioning an extra lakh of rupees for the purpose.

Resolution.—The Financial Department having intimated the decision of the Governor-General in Council in that department to give an extra budget assignment of 12 lakhs for distribution among the different local Governments, a circular was issued, explaining the object of this grant and the proposed distribution of it, and calling for an early and precise statement of the manner in which each proposed to expend its share.

2. Answers have been received from all, and orders have been issued upon those answers, copies of which have been communicated to the Financial Department.

3. In making the distribution, an expected saving of about 44,000 rupees in the Railway Departmental Budget of the North Western Provinces was taken into consideration; but this will be added to the small balance of the reserve remaining at the disposal of this department, making its present amount up to 75,000 rupees.

4. The distribution for the original objects has been sanctioned as follows:—

To Madras	-	-	-	-	-	-	-	1½ lakh.
Bombay	-	-	-	-	-	-	-	2½ "
Bengal	-	-	-	-	-	-	-	1½ "
North Western Provinces	-	-	-	-	-	-	-	1½ "
Punjab	-	-	-	-	-	-	-	"
Nagpoor	-	-	-	-	-	-	-	1½ "
Hyderabad	-	-	-	-	-	-	-	½ "

TOTAL - - - 9 lakhs.

5. But it has also been judged necessary by the Governor-General in Council in this department to comply with the following additional demands:—

For the works of the Godavery navigation*	-	-	-	1 lakh.
For military buildings at Hyderabad, lately sanctioned on a reduced scheme†	-	-	-	1 "
For the completion of the barracks at Rangoon for a regiment with families, urgently required‡	-	-	-	1 "
For the lighthouse on Double Island	-	-	-	½ "

TOTAL - - - 12½ lakhs.

5. It is necessary therefore to request the Financial Department to arrange for an extra budget grant of 12½ lakhs, instead of 12.

Ordered, that this resolution be communicated to the Financial Department, and that the proceedings in connexion with this extra grant be reported to Her Majesty's Government.

1
India.

* No. 4473, dated 23d December 1861.
† No. 4,446, dated 20th December 1861.
‡ Telegram, No. 240, dated 9th December 1861.

I.
India.

— No. 57. —

Public Works Department.—Public.—No. 90 of 1861.

COMMUNICATIONS.

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir,

Fort William, 23 December 1861.

IN continuation of our Despatch, No. 55 of the 20th August last, and with reference to previous letters, we have the honour to forward copy of a communication from the Government of Bengal, reporting the measures in progress for improving the communications in the province of Cuttack, with the view of facilitating the export of cotton.

2. For a further communication, having reference to the present expenditure proposed on some of the principal of these roads, we beg to refer you to a letter from the Government of Bengal, No. 95, dated 11th November 1861, which forms one of the enclosures of our Despatch, No. 89, of this day's date, reporting our proceedings in connexion with an additional budget grant for 1861-62.

We have, &c.

Canning.
H. B. E. Frere.
C. Beadon.
R. Napier.
S. Laing.
W. Ritchie.

Enclosure in No. 57.

(No. 4922.)

Communications.
Roads.

From *F. R. Boyce*, Esq., Assistant Secretary to the Government of Bengal, in the Public Works Department.

To the Secretary to the Government of India, Public Works Department.

Sir,

Fort William, 16 November 1861.

I AM directed by the Lieutenant Governor to forward, for the information of the Government of India, a copy of a communication from the officiating chief engineer, No. 3590, dated the 29th ultimo, and of its enclosure, from the superintending engineer of the Cuttack Circle.* It will be seen from the latter paper, that a valuable supply of cotton is at present in store in Cuttack, and in the district towns of Sonapore, Boad, and Sumbulpore, awaiting the termination of the rains to be exported from the province; and that an improvement in the means of transit would lead to an extension of the cotton cultivation in the districts about Sumbulpore and Chota Nagpore.

* No. 207, dated
23d September last.

2. In connexion with this subject, I am also directed to report the measures now in progress, to improve the communications in the province of Cuttack, which will facilitate the export of cotton.

3. The superintending engineer has been called on for an estimate for the construction of a road from Cuttack to Sonapore, on the southern bank of the Mahanuddy, and to make arrangements for commencing at once the portion of this road over the Burmoul Pass, which has been represented as offering the greatest obstacle to traffic on the existing fair-weather tract. For this work, an expenditure of 8,200 rupees, according to an estimate prepared by the executive engineer, has been sanctioned.

4. The superintending engineer has been further desired to submit a report, with an approximate estimate, showing the cost and advantages of extending the Cuttack and Sonapore road to Sumbulpore; also to arrange for the reconnoitre and rough survey of a road proposed to be formed from Sumbulpore to Chunderpore, a mart to the north-west of the former town.

5. These roads were mentioned by the superintending engineer of the Cuttack Circle in a report of 20th May, a copy of which, with its enclosures, is forwarded herewith.

6. Another road that will much facilitate the export of cotton is that from Cuttack to Toldondah, near the mouth of the Mahanuddy river, which is navigable from thence to False Point. Provision for this road has been made in the Budget arrangements of this year,

year, reported in the letter from this office, No. 3220 of the 19th July last, the 11th paragraph of which explained the nature and cost of the road sanctioned by the Lieutenant Governor.

I.
India.

7. In respect to water communication, the officiating superintendent of the Tributary Mehals drew attention, in a letter of 27th June last, to the correspondence which will be found at pages 73 to 79, of the Selections from the Records of the Bengal Government, No. XXXV., Part 2, relating to the improvement of the navigation of the Mahanuddy river above Cuttack; and the Lieutenant Governor, being desirous that such immediate improvements as could be made by the removal of rocks, &c., at the worst places, should be carried out, sanctioned an expenditure of a sum not exceeding 2,000 rupees, for the removal of the obstructions alluded to in a report by Mr. McMillan, which forms the Appendix D. of Captain Harris's third Report on the Mahanuddy River; the officiating chief engineer having recommended the measure, and having expressed the confidence he entertained in every rupee of this small sum being laid out to advantage by Mr. McMillan.

8. This sum will admit of a few only of the greatest obstructions, in the way of rocks and boulders, being removed from the dry-weather channel of the rapids between Cuttack and Sumbulpore; and the Lieutenant Governor is inclined to think that a much larger measure will eventually be necessary. The officiating chief engineer has, therefore, been desired to prepare for consideration such a scheme as he can recommend. The superintending engineer of the Cuttack Circle has also been required to submit an early report on the obstructions in the bed of the same river above Sumbulpore.

9. I am desired to refer to the special narrative transmitted under cover of the letter No. 3566, of 3d August last from this office, as showing what has been done in regard to improving communications leading to cotton-growing districts generally.

I have, &c.

F. R. Boyce,

Assistant Secretary to the Government of Bengal, in
the Public Works Department.

MEMORANDUM from *F. R. Boyce, Esq.*, Assistant to the Chief Engineer, for Officiating Chief Engineer, Bengal (No. 3590, dated 29 October 1861).

TRANSFERRED, in original, to the office of the Secretary to the Government of Bengal, Public Works Department.

2. The officiating chief engineer was aware that the country all about the Wurdah River, between Sumbulpore and Nagpore, was very fertile for cotton; but he was not prepared for the statement now received as to the value of the cotton stored at Cuttack, and available in Sonapore and other places.

3. The officiating chief engineer believes that the valley of the Mahanuddy also would yield a very rich growth of cotton on its long and well-drained slopes.

4. Orders have already been issued for the construction of roads; but the chief engineer is of opinion that the river route would be preferable. A small sum has been sanctioned for removal of obstructions to the navigation of the Mahanuddy, in three or four bad places, which will be carried out this year; and the chief engineer will bring forward in due time, as directed by Government, a scheme for the improvement of the river, adequate to the requirements of the case.

From *T. N. Armstrong, Esq., c. E.*, Superintending Engineer, VIIth or Cuttack Circle, to the Officiating Chief Engineer of Bengal (No. 207, dated 23 September 1861).

Sir,

IN continuation of my No. 38, of the 20th May last, and as I see it stated in the last news from England that the usual supply of cotton from the Southern States of America is not likely to be available during the approaching year for the manufactories of England, I think it proper to mention, that in Cuttack just now, I am assured by well-informed mercantile gentlemen and mahajuns, that there is fully two lacs of rupees worth of this article in store—waiting for the termination of the rains to be transported out of the province, and that over another two lacs' worth is available in Sonapore, Boad, Sumbulpore, &c. *

2. The persons with whom I have consulted on the subject of cotton supply, assure me, that if the means of communication were improved, the produce of cotton would be wonderfully increased in the country about Sonapore, Sumbulpore, north and west of the same, and in Chota Nagpore, &c., more especially as a demand, which hitherto has not existed to any extent, is now likely to take place.

3. Cotton is a bulky article, difficult to pack without presses, which of course the natives have not, and the roads and water means of transit from the interior to the seacoast being so imperfect and difficult in the former, and dangerous and uncertain in the latter, that the

* Awaiting the dry season to be transported on pack bullocks, &c., the navigation of the Mahanuddy for cotton boats being so hazardous all through the year.

I.
India.

result of all is, that it hardly pays to transport the article from the locality of its growth to the first mart it meets a proper sale at, viz., Cuttack, where too it is warehoused until the dry season arrives, when it is carted away.

4. But as things are, the expense of carriage is so great for the early part of its transit, that cotton rates at a price in this province, which renders it a hazardous article to speculate in for exportation; hence its present restricted supply, and the restricted local demand for the useful article.

5. The importance of cotton for England cannot be over-estimated, and I think it only right to endeavour to draw attention to the fact, that this indispensable article can be largely grown in the districts about Sumbulpore and Chota Nagpore, &c. It is now only produced on a very moderate scale from causes I have detailed above; but it will be allowed, I am sure, that if the means of transit were improved, and facilities given for the same, the demand would increase proportionately with the diminished cost of the article.* The cultivator or possessor of lands suitable for cotton growth, would increase its cultivation with the demand to an extent that it is difficult to estimate, and which would perhaps almost drive cereal farming from the cotton districts, as has been the case in the Southern States of North America, whose population are largely dependent on the northern and western for their breadstuffs.

* Improved too by the introduction of new seed very likely.

— No. 58. —

PUBLIC WORKS DESPATCH to India, dated 7 March (No. 11), 1862.

Para. 1. I HAVE received your letters Nos. 89 and 90, of 23d December last, the one reporting an addition of 13 lacs to the previous Public Works assignments for 1861-62, and the other describing the measures in progress for improving the communications in the province of Cuttack, with the view of facilitating the export of cotton.

2. To expedite works calculated to facilitate cotton export was your principal object in making the additional grant, and the several Governments among whom the grant has been divided, appear to have kept the same object steadily in view, while considering on what particular works the money should be spent. Two lacs out of the 13 were urgently required for military buildings at Rangoon and Hyderabad but almost the whole of the remaining 11 lacs were to be expended on communications, and chiefly on communications with cotton growing districts. The want of facilities for the transport of cotton seems to have been particularly felt in Cuttack, and the Lieutenant Governor of Bengal could not apparently have made a better use of the additional lac and a half placed at his disposal, than in appropriating it, as he proposes to do, almost entirely to the formation of good roads connecting the inland marts of Chunderpore, Sumbulpore, and Sonapore, with the towns of Cuttack and Toldondah on the Mahanuddy, and in improving and extending the navigability of that river.

3. It is equally satisfactory to learn that your financial prospects are such as to warrant your making an additional grant for Public Works during the year, and that the money is to be applied in a manner likely to produce beneficial results at an early period.

4. In Colonel Yule's letter † to the Commissioner of Nagpore, you very properly direct "that special attention and preference may be given to the early construction of feeders to the railway." The importance of this object cannot be too strongly urged on the local authorities in the appropriation of funds placed by you at their disposal for the improvement of the communications, and I trust that in the allotment of funds for the coming season, it will be steadily kept in view.

12th September 1861.

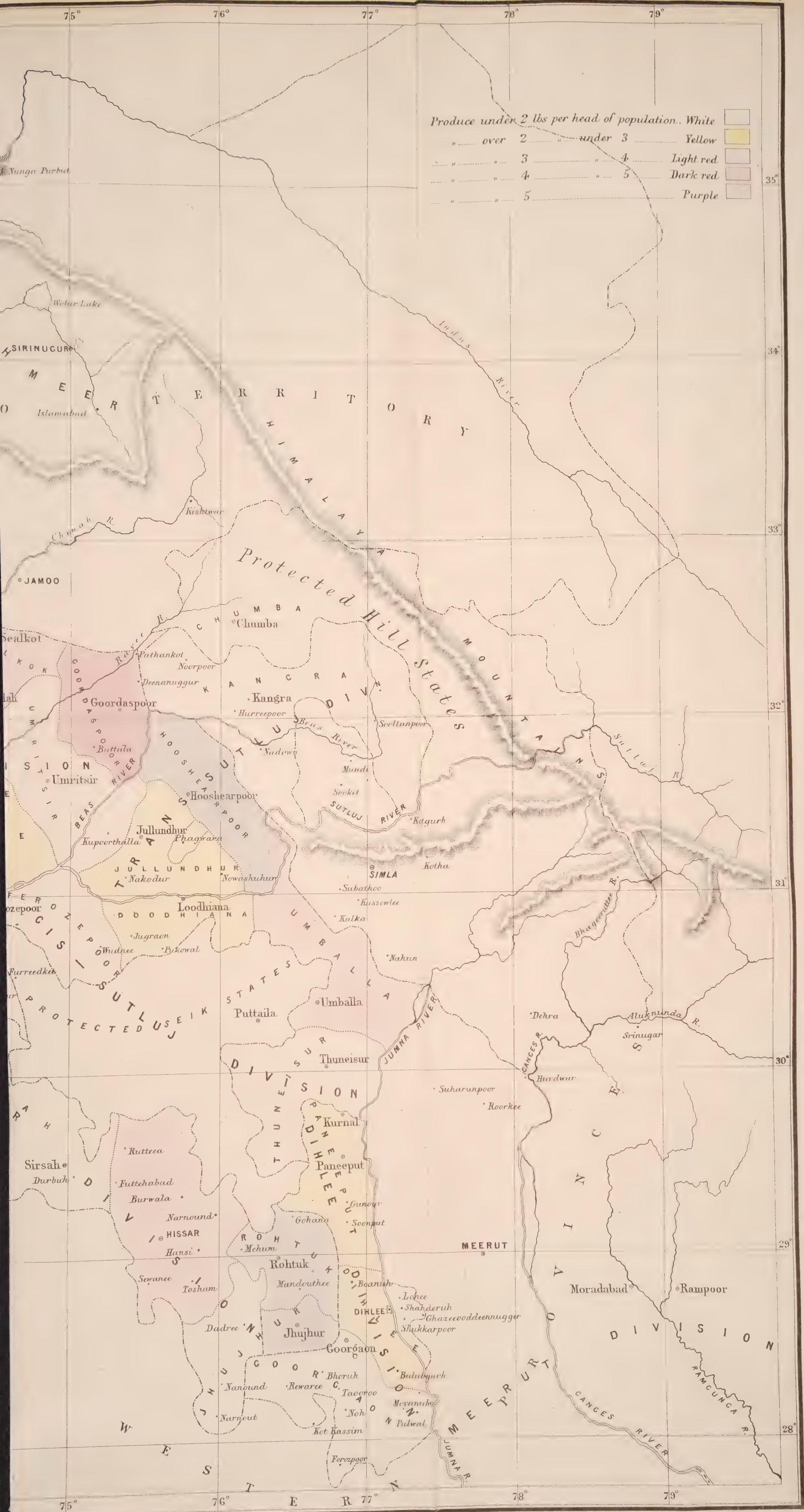
"The committee proceed to consider the subject of the system of roads as connected with the navigation of the Godavery. The committee having no information at present regarding the progress of the works connected with the navigation of the Godavery, nor the general plan of the scheme proposed, would leave the question for future consideration. Roads can be of but little good until the navigation of the Godavery and its tributaries is perfected. It is not known by this committee how far inland the Godavery has been made navigable, and until the passage of boats to within a short distance of Woon shall be possible, roads in Berar would be scarcely advisable."

5. With reference to the remarks contained in the report of the committee appointed to investigate the subject of roads in the Berar district, it seems very advisable that the Commissioner of Nagpore and the Resident at Hyderabad should be kept informed of the general progress of the works connected with the navigation of the Godavery, so that a system of roads should be devised, tending to the development of the traffic on that river.

C. Wood.

†No. 4270, 2d December 1861.

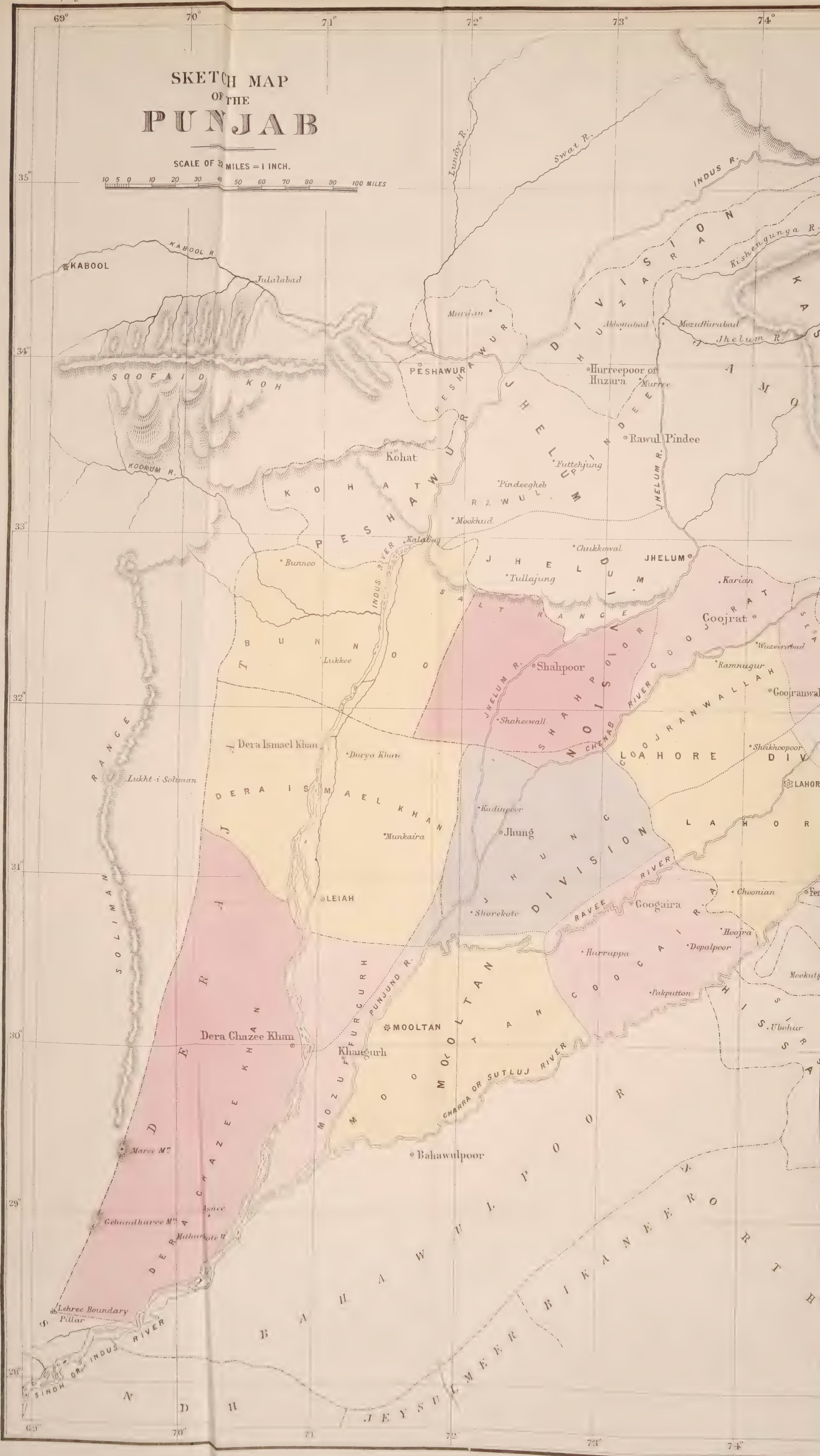


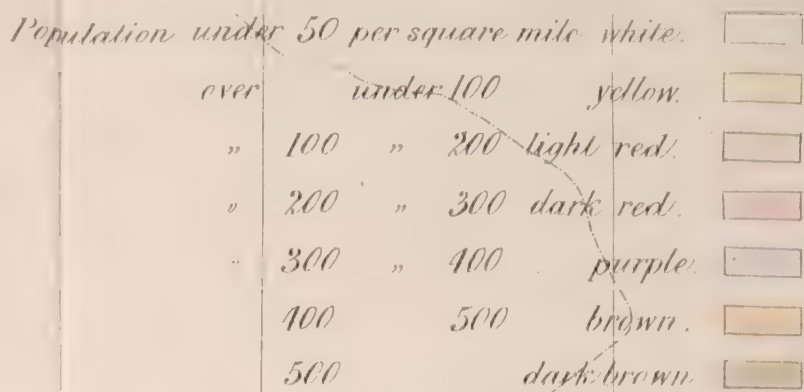


SKETCH MAP
OF THE
PUNJAB

SCALE OF $\frac{32}{1}$ MILES = 1 INCH.

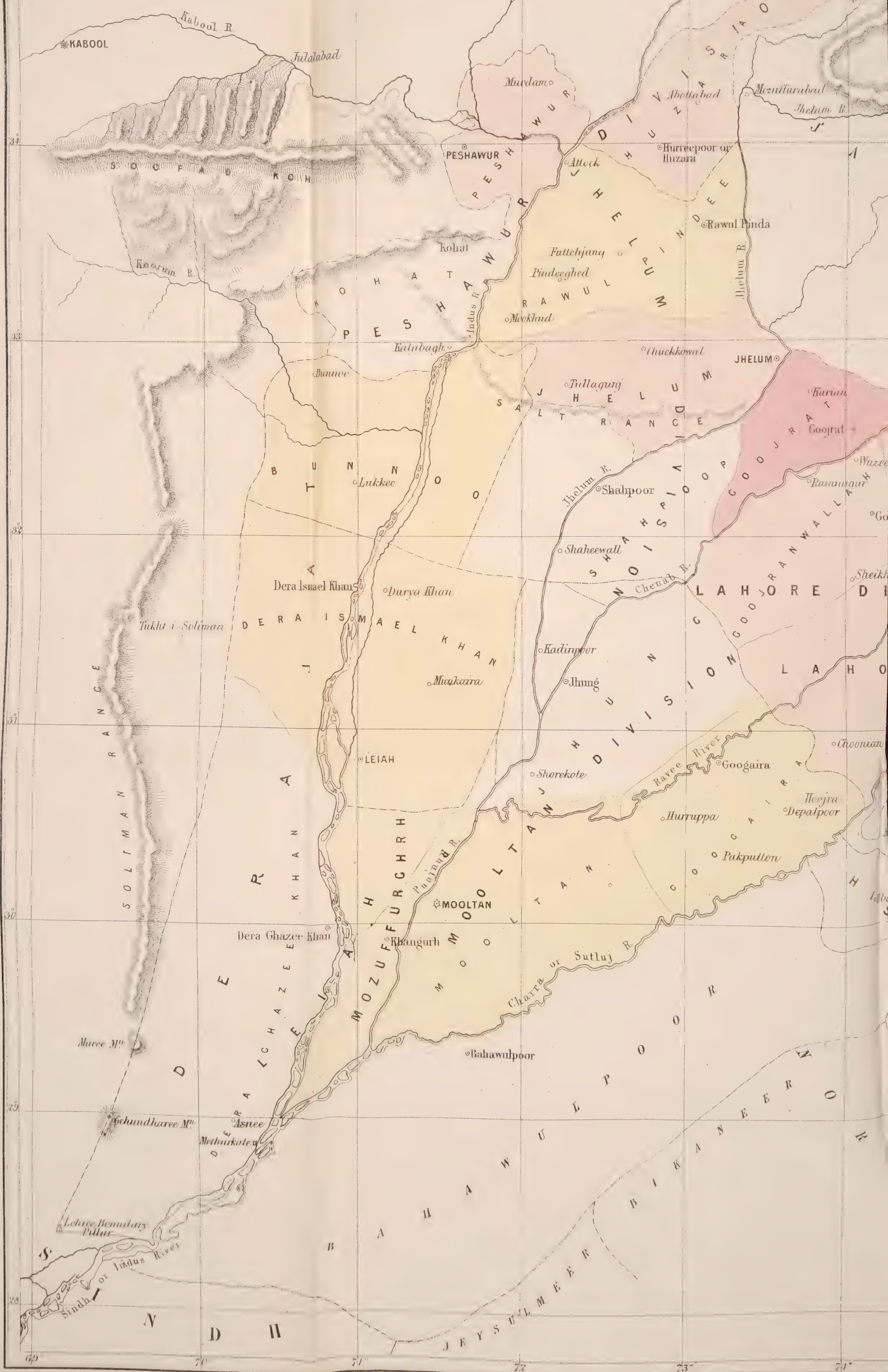
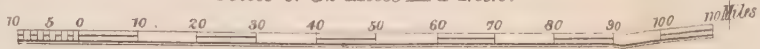
10 5 0 10 20 30 40 50 60 70 80 90 100 MILES





SKETCH MAP
OF THE
PUNJAB.

Scale of 32 Miles — 1 Inch.



I.
India.

3. Population map (Column 3):

Population under 50 per square mile	-	-	-	-	-	-	White.
Ditto - over 50 under 100 ditto	-	-	-	-	-	-	Yellow.
Ditto - " 100 " 200 ditto	-	-	-	-	-	-	Light red.
Ditto - " 200 " 300 ditto	-	-	-	-	-	-	Dark red.
Ditto - " 300 " 400 ditto	-	-	-	-	-	-	Purple.
Ditto - " 400 " 500 ditto	-	-	-	-	-	-	Brown.
Ditto - " 500 - - - - -	-	-	-	-	-	-	Dark brown.

Districts left uncoloured in Map 2 do not produce enough of cotton for home use, and probably all, more or less, import from their neighbours.

Districts coloured yellow in the same map produce the assumed average required for home use, and cannot be expected to give much to others.

Districts coloured light red should be able to export, more or less.

But most is to be expected from the remaining districts coloured in the map dark red and purple.

The general conclusions from the maps and figures are:

1. That the districts which can best export at the present time are (in this order) Roh-tuk, Jhung, Hoshiarpore, Shahpore, Dera Ghazee Khan, Goordaspore, Umbala, Sealkote, Gogaira, Mozuffurgurh, Goojrat and Hissar.

2. That certain districts, particularly Delhi, Hissar, Thanesur, Jullundhur, Hoshiarpore, and Gogaira, might produce more cotton than they do; and those of them which do not now export might become exporting districts.

3. That in certain other districts, (those left uncoloured in map 1) Kangra, Ferozepore, Rawul Pindee, Goojrat, Jhelum, Huzara, Kohat, Dera Ghazee Khan and Mooltan, cotton lands have not been very productive, though in consequence of the scanty population in some of them, they have, even from their moderately productive soil, been able to furnish cotton for export.

With regard to the most unprofitable of these, Kangra, Ferozepore, Jhelum, Huzara, and Kohat, it remains to be ascertained—have they any land naturally well suited for cotton, and is their present unproductiveness due to want of water or defective culture, or any other remediable cause? The answer to this question will dictate the course to be pursued with reference to the encouragement of cotton cultivation in these districts, or its abandonment in favour of cereals or other crops for which the soil and resources are better suited. The two hill districts, Kangra and Huzara, will probably never grow cotton very successfully, and it may perhaps in those districts gradually give place to tea.

The districts in the second category above have greater capability for cotton cultivation than is at present turned to account in the production of cotton. But it may be that their culturable area is as profitably occupied with other crops; this is probably the case in Jullundhur; or that they have considerable extent of unproductive land, either destitute of water or incapable of cultivation; this is probably the case with some parts of Hissar. The determination of these points will indicate what should be done with respect to cotton in these districts.

These collateral questions are here merely glanced at; the question under consideration relates to facilities now to be provided for present actual or possible export of cotton and other products.

So far with reference to cotton only. The export of grain from the Punjab is considerable and important. Nearly the whole country has great capabilities for growing grain, and good roads should communicate with the rivers from the principal wheat-growing districts. There are no general returns available of cereals and other produce, but the Jullundhur Doab may be assumed as one of the parts of the country best capable of exporting wheat. This fertile and highly cultivated tract is also prepared to supply sugar in large quantity, but probably only to other parts of the country, not for foreign export.

Other products, flax, &c., may demand means of export hereafter.

Besides the export of products of the country, the export of goods imported from the countries on the north is important. Of these the great entrepôt is Umrtsur. The railway and rivers provide for this trade export.

Gathering these conclusions, notice will now be taken in succession of the districts principally demanding good roads leading to the main channels of export, by land or water, existing or in course of execution.

The fourth accompanying map shows present lines of road in the Punjab.

A map, prepared from the returns called for in accordance with the instructions received from the Government of India in Letter No. 1807 of the 28th May last, exhibits the roads in three classes:—1. High roads, metalled and bridged throughout (Lahore and Peshawar road included, as belonging to roads of this standard, though only in progress).—2. Made roads, unmetalled, partially or wholly embanked and bridged.—3. Minor roads, not embanked, unmetalled and unbridged. In the accompanying small map the roads of the third class have, for the sake of clearness, been omitted.

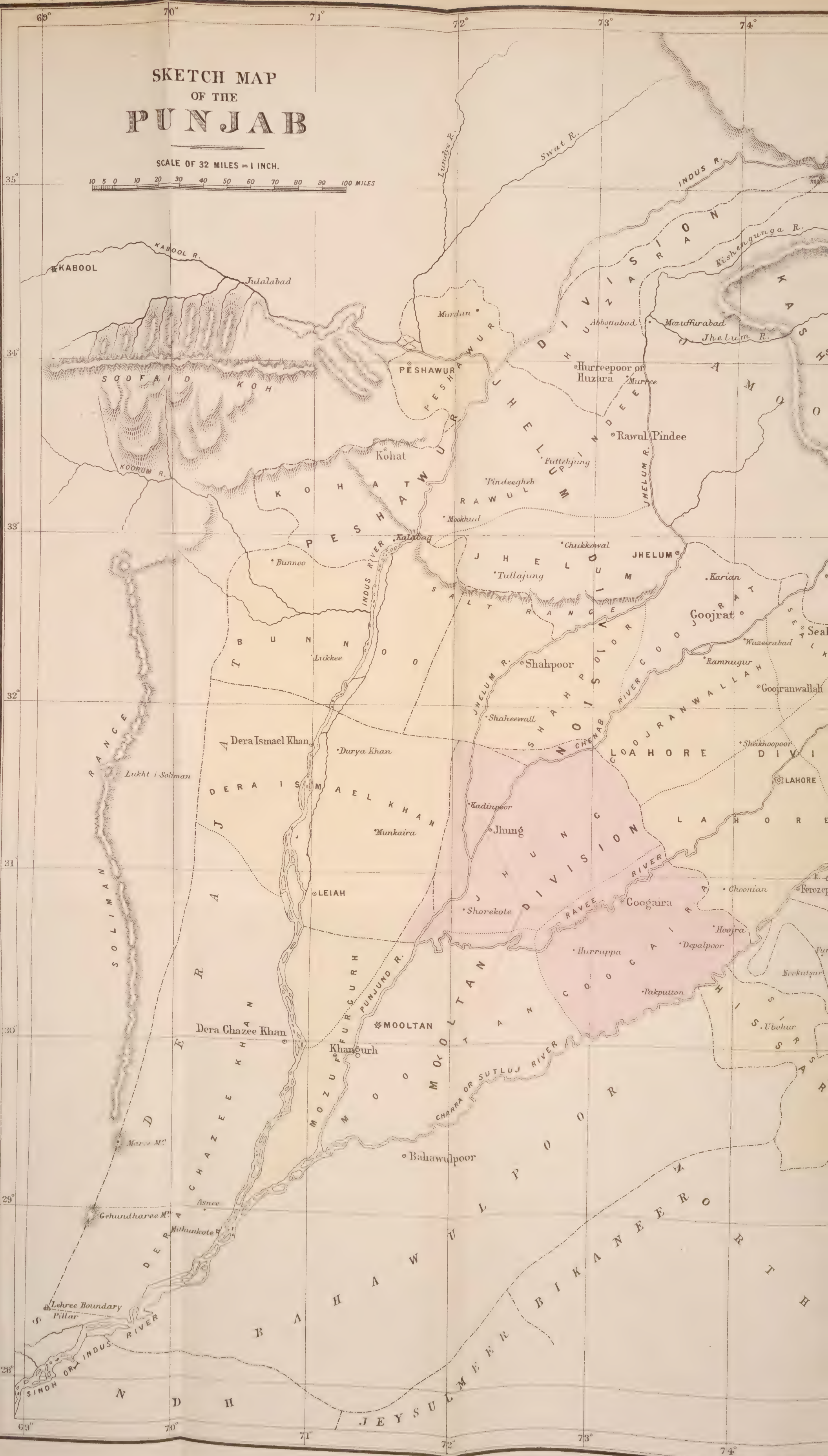
The largest excess of cotton produce is in the districts of Rohtuk, Jhung, and Hoshiarpore.

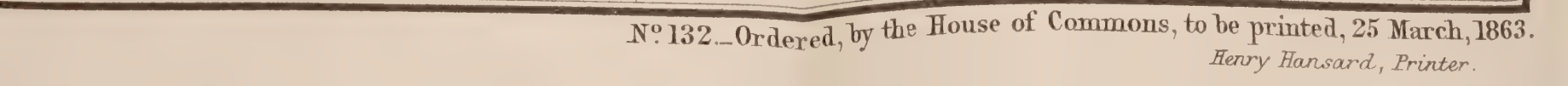
Rohtuk.—In the Gazette Supplement above referred to, it is stated that "some of the exports from Rohtuk are to the Punjab, and some to the Lower Provinces." The outlet from

SKETCH MAP OF THE PUNJAB

SCALE OF 32 MILES = 1 INCH.

10 5 0 10 20 30 40 50 60 70 80 90 100 MILES





from the country, in the latter of these two directions, is the route which it is desired to facilitate. The road from the city of Rohtuk to the Jumna at Delhi, is embanked and partially metalled. To the improvement and completion of this as a metalled road, part of the funds now made available for this purpose may be appropriated.

Jhung has command of the rivers Chenab and Jhelum, for outlet. Carriage is principally on camels, and little is required to make the roads passable for them. To the improvement of the chief roads to the rivers from the principal cotton localities in the interior of the district, a small sum may be allotted. Of this district, which produces at present so much in excess of its own wants, the soil is reported to be well suited for cotton, and to be capable of growing it more extensively if provided with the means of irrigation. At present it does not export cotton. It produces annually more than twice the quantity of cotton grown in the neighbouring district of Mozuffurgurh, and nearly twice the amount per head of population, but it furnishes no cotton for export, whilst Mozuffurgurh exports 7,000 maunds. It is a manufacturing district, and instead of exporting raw cotton, exports coarse cotton cloths largely to Afghanistan.

Hoshiarpore stands highest of all the districts in cotton productiveness, and very high in regard to surplus produce.

The remark in the Gazette supplement statement, regarding Trans-Sutlej states, appears at first sight inconsistent with the facts exhibited by the figures. "The exports from Julundhur are usually to Hoshiarpore and Kangra." Julundhur, which produces very little above the apparent average demand for home use, exports that little, and is said to export it to Hoshiarpore, which produces nearly three times the amount it requires for home consumption, and instead of largely exporting, is thus said to import from a neighbour which has smaller supply of its own.

The explanation is, that Hoshiarpore manufactures extensively, and exports the manufactured goods. The Deputy Commissioner, in reply to inquiry on the subject, has reported that above half a lakh of rupees' worth of manufactured cotton goes yearly to the hills, and above half a lakh is sold to Cabul merchants. The cloth made in the villages is bought up in certain towns, and thence exported or sold wholesale.

The roads from Hoshiarpore to the Trunk Road, at Julundhur for the west, and at Phugwara for the south, should receive a portion of the money now offered.

The road from Hoshiarpore to Julundhur, 24 miles, is partly embanked, partially metalled 12 feet in width, with two torrent beds unbridged, and one bridge required at Adumpore.

The road from Hoshiarpore to Phugwara, 23½ miles, is not embanked, is unmetalled and unbridged. One large bridge is required over the Beza Nullah.

The district next in order with respect to surplus produce of cotton for export, is Shahpore. Shahpore possesses the means of export to the sea by the rivers Jhelum and Chenab. The remark regarding interior roads, made above with respect to Jhung, is applicable to Shahpore.

Dera Ghazee Khan exports a considerable amount of cotton, 9,000 maunds. (The annual export is, by mistake, given in the Gazette supplement as 36,000 maunds).

With all the advantage of abundant canal irrigation for a cotton crop, the productiveness of its soil is reported very low. But as cotton is now one of its standard crops and articles of export, improved culture may increase its productiveness. This district has the Indus for its great export channel, accessible within a short distance from every part. Passable roads are easily and cheaply made, and a small sum might be devoted to roads from the principal cotton lands to the river.

Goordaspore exports towards Lahore. The road now in progress from Pathankote to Umritsur, will supply what is required for this district, which also has the advantage of the Baree Doab Canal, both for irrigation and for export of its produce.

Next in order is Umbala. It is said, in the published statement referred to, to export very little, though it would appear that it ought to be able to export. In reply to a reference on this point, it has been ascertained that the quantity exported is about one-fourth of the whole produce. Of this, about one-third goes to the hills, and two-thirds to the markets of Lahore and Umritsur. There does not appear to be any great export of manufactured cotton. This district has the Trunk Road within a moderate distance at all parts. Nothing is proposed in connexion with the present question for Umbala.

Sealkote exports towards Mooltan. Of all the districts it has the largest proportion of its area under cotton cultivation. Its means of export should be aided.

The road from the city of Sealkote to the Chenab at Wuzeerabad, 20 miles, is embanked and bridged, but unmetalled.

The road from Sealkote to the Trunk Road at Goojranwala, 25 miles, bridged, not embanked, unmetalled.

There is constant cart traffic along both these roads.

To each of these an allotment from the money now available is recommended.

Gogaira appears to have surplus produce, but is said to export nothing. It has some canal irrigation; it has, for means of export, the Sutlej on one side, and on the other the Ravee, and will ere long have the rail to Mooltan, where produce, availing itself of this mode of conveyance so far, would take the more suitable means of export carriage, by water. Encouragement should be given to the cultivation of cotton in this district. Meantime, for roads from the cotton-growing parts of the interior to the Sutlej, funds when available should be allotted.

Mozuffurgurh, between the Chenab and the Indus, has excellent facilities for export, and does now export, down those rivers. Nothing proposed at present for Mozuffurgurh.

I.
India.

Goojrat exports cotton to Cashmere. For export to the sea, it has the Chenab and Jhelum, and the Trunk Road running through the district communicating with both these rivers. Nothing is proposed out of this three-quarter lakh for this district.

Mooltan is said to export a considerable quantity of cotton. The amount stated appears more than it could afford to part with, if the other figures are correct. The district is well provided with the means of export by water; roads from the cotton lands in the interior to the rivers should have attention. A small provision is recommended for them from the present allotment.

Delhi, Kurnal, Lahore, Goojranwala, export cotton, chiefly to adjoining districts. The quantity stated is questionable in the case of Kurnal, seeing how little it would keep for its own use. These districts are all provided with the means of export by trunk lines of road, and by the Jumna. Roads from the interior or to these exporting channels should, as in the other similar cases, be aided where necessary. Nothing is proposed for them at present.

The Kusoor pergunnah of the Lahore district grows cotton extensively, without irrigation. It is stated by the Deputy Commissioner to be grown only in very favourable years. The produce is sent to Ferozepore, and thence to Bombay by water. The Lahore and Ferozepore road, now in course of execution, passes through Kusoor.

Dera Ismail Khan ought to be able, apparently, to export more than it does. This district manufactures and exports the goods to Afghanistan.

Goorgaon exporting its whole produce, as stated in the published paper referred to, and keeping nothing for itself, is assumed to be a mistake. It can scarcely afford at present to export any large quantity. The whole cotton of the district is a scanty supply for its own use.

Lower in the scale of cotton export capability it does not seem necessary to go for the present purpose.

Rawul Pindee, Peshawur and Kohat, all said to export small quantities, cannot, it will be seen from the figures in columns 7 and 9, be looked to for much or early increase of exporting power.

The recommended distribution of the present allotment is:—				Rs.
Rohtuk to Delhi—metalling and improvement	-	-	-	18,000
Hoshyarpore to Julundhur—bridging or metalling	-	-	-	12,000
Hoshyarpore to Phugwara—bridging or metalling	-	-	-	15,000
Sealkote to Wuzerabad	{	Small improvements. Funds for		3,000
Sealkote to Goojranwala		metalling could not be afforded out of the present allotment.		3,000
Roads from cotton lands to rivers in Mooltan Division	-	-	-	8,000
Roads from cotton lands to rivers in Shahpore District	-	-	-	8,000
Roads from cotton lands to rivers in Dera Ghazee Khan District	-	-	-	8,000
TOTAL - -				Rs. 75,000

Cotton grown within British territory alone has above been taken into consideration. Of the amount and value of cotton produced in the native states connected with the Punjab, there are no returns. Information should be obtained on this subject, and the attention of the native rulers might be specially directed to the encouragement of cotton cultivation and export, as a matter of importance to their interests and to the prosperity of their people and country.*

One other measure of much importance in connexion with the question of cotton export, is the establishment of presses for packing the bales in more advantageous mode for carriage, before the cotton is started on its long journey to the coast. When carried in the loose form, it gathers in transit much dirt and impurity, before being subjected to the press at the port of embarkation, as is now the case with the cotton conveyed on droves of baggage animals over the hill roads from the cotton districts of Bombay to the sea. It would be of great value to the cotton export trade of the Punjab to have presses established at a few convenient stations, which could receive the cotton of a considerable extent of country as near as possible to the place of its production.

Mr. Coates, of Ferozepore, has had a cotton press at work for some time, and found difficulty in getting the people to use it. In answer to an inquiry as to the cause of this, it appears that as the cotton was not cleaned till arrival at Bombay, the merchants objected to pressing it uncleaned, before despatch, as the cotton was damaged by pressing with the seed. Cleaning is to be arranged for in connexion with, or previous to, pressing.

The positions recommended for the establishment of presses in the first instance are:—

1. Delhi, for the districts between the Sutlej and Jumna, before despatch down the latter river.
2. Umritsur, for the Julundhur Doab, and districts of the Umritsur Division, before despatch by rail to Lahore and Mooltan.
3. Mooltan, for the districts on the convergent rivers of the lower Punjab, before despatch by boat or steamer for Kurachee.

This

* Letters have been addressed to Jummoo, Puttiala, Nabha, Jheend, Bahawalpore, Muler Kotla, Kulsia, Patoudee, and Loharoo.

This is properly a matter for the cotton growers or cotton agents to look to but, like many other advantageous commercial or industrial arrangements in this country, it may be necessary for Government to take the lead, with the view, afterwards, when all is working successfully, of making over the management to private enterprise.

Lahore, 28th November 1861.

I.
India.

TABULAR STATEMENT of Cultivation and Export of Cotton (Punjab) 1861.

DISTRICTS.	1. Area.	2. Population.	3. Population per Square Mile.	4. Area under Cotton Cultivation.	5. Proportion of Whole Area under Cotton Cultivation.	6. Estimated Annual Produce.	7. Annual Produce per Square Mile of Cotton Cultivated Area.	8. Annual Produce per Square Mile of Total Area.	9. Annual Produce per Head of Population.	10. Estimated Annual Export.	11. Left for Home Use per Head.
	<i>Sq. Mls.</i>			<i>Sqr. Miles.</i>		<i>Maunds.</i>	<i>Maunds.</i>	<i>Maunds.</i>	<i>Lbs.</i>	<i>Maunds.</i>	<i>Lbs.</i>
Delhi - - -	786	2,73,479	347	6,527	·00833	8,422	1,290	10·7	2·4	5,615	·82
Goorgaon - - -	2,000	6,86,089	342	15,500	·00775	10,000	645	5·0	1·1	10,000	—
Kurraul - - -	1,271	3,69,085	282	15,500	·01219	10,250	661	8·1	2·3	6,833	·73
Hissar - - -	3,156	2,61,146	82	12,460	·00394	10,651	855	3·3	3·2	—	3·2
Rohtuk - - -	2,171	4,51,005	207	50,802	·02340	65,552	1,290	30·1	11·1	32,776	5·8
Sirsa - - -	3,219	1,45,870	45	—	·000002	5	713	·001	·0017	—	·0017
Umbala - - -	1,829	7,23,992	395	46,500	·02542	36,000	774	19·6	3·9	—	3·9
Thanesur - - -	2,038	5,11,887	251	4,196	·00206	4,195	1,000	2·0	·63	—	·63
Loodiana - - -	1,377	5,25,493	381	27,900	·02026	18,000	645	13·0	2·7	—	2·7
Simla - - -	—	27,786	—	—	—	—	—	—	—	—	—
Julundhur - - -	1,347	6,98,169	518	21,275	·01579	21,711	1,020	16·1	2·4	3,500	2·0
Hoshiarpore - - -	2,188	8,33,817	381	31,000	·01415	60,000	1,935	27·38	5·7	—	5·7
Kangra - - -	3,206	7,18,955	224	21,807	·00680	5,627	253	1·75	·62	—	·62
Murritsur - - -	2,024	8,84,429	437	24,460	·01208	17,752	725	8·75	1·6	—	1·6
Goordaspore - - -	1,675	7,87,417	470	48,330	·02885	40,534	838	24·2	4·1	25,000	1·5
Sealkote - - -	1,350	6,41,782	475	40,864	·03027	29,659	725	21·9	3·6	4,012	3·1
Lahore - - -	3,608	6,62,338	183	36,972	·01024	19,475	526	5·4	2·3	6,492	1·5
Goojranwala - - -	2,651	4,20,753	159	23,447	·06884	15,127	645	5·7	2·8	3,800	2·1
Ferozepore - - -	2,730	4,75,624	174	5,037	·00184	1,950	387	·7	·32	—	·32
Rawul Pindee - - -	5,996	5,53,750	92	25,485	·00426	12,331	483	2·0	1·7	525	1·7
Goojrat - - -	1,886	5,00,167	265	45,013	·02300	21,054	467	11·1	3·3	7,018	2·2
Jhelum - - -	3,684	3,75,800	102	19,000	·00516	6,692	352	1·8	1·4	—	1·4
Shahpore - - -	6,500	2,61,693	40	23,250	·00357	15,937	586	2·4	4·8	5,000	3·4
Peshawur - - -	2,324	4,50,099	193	12,400	·00530	6,200	500	2·6	1·0	1,000	·92
Hazara - - -	2,424	2,96,364	122	17,050	·00700	6,050	354	2·5	1·6	—	1·6
Kohat - - -	2,840	1,16,293	40	5,115	·00180	1,550	333	·0	1·0	775	·53
Dera Ghazee Khan - - -	6,531	2,38,959	35	27,900	·09430	13,500	483	2·1	4·8	3,600	3·3
Dera Ismael Khan - - -	5,745	4,34,180	75	19,685	·00340	12,700	645	2·2	2·3	700	2·2
Bunnoo - - -	4,500	2,37,557	52	13,485	·00290	8,265	612	1·8	2·7	—	2·7
Mooltan - - -	5,634	4,11,386	73	29,716	·00527	14,764	496	2·6	2·8	9,846	·98
Mozufferghur - - -	2,849	2,46,912	86	17,050	·00588	11,000	645	3·8	3·5	7,333	1·1
Jhung - - -	5,314	2,64,314	49	23,440	·00438	22,684	972	4·2	6·8	—	6·8
Gogaira - - -	5,553	3,08,020	55	17,135	·00308	13,819	806	2·5	3·6	—	3·6

— No. 60. —

EXTRACT PUBLIC WORKS DESPATCH to India, dated 31 May (No. 20) 1862.

2. COPIES of the memorandum, and of the maps transmitted with letter No. 10, have been forwarded to the Cotton Supply Association. Memo. on roads in the Punjab for facilitating export trade.

REVENUE DESPATCH to Government of India (No. 12), dated 9 June 1862.

Para. 1. I FORWARD herewith, at the request of the Manchester Cotton Supply Association, 400 copies of a circular containing information as to the requisites for the improvement of Indian cotton; and I have to request that you will take measures for circulating it, both in English and in a translated form, among persons engaged in the cultivation and preparation of that article, with the addition of any remarks which may be applicable to the cultivation of cotton in particular localities.

2. Copies have also been sent to the Governments of Madras and Bombay.

Enclosure in No. 61.

REQUISITES FOR THE IMPROVEMENT OF INDIAN COTTON.

THE Cotton Supply Association regard it as an established fact, that India can produce cotton in unlimited abundance, and of a quality suited to the requirements of at least three-fourths of the manufacturers of Great Britain; and they believe, that by taking advantage of the present opportunity, the ryots and others engaged in growing or preparing the staple, may secure to themselves a large portion of the trade, estimated at about 40,000,000 *l.* sterling per annum, which has been of late years monopolised by the cotton planters of the United States.

One of the main causes which prevent Indian from competing successfully with American cotton, and securing a commanding position in the English market, is its comparative shortness of fibre. This defect may be remedied by the following means:

1. Deeper ploughing than is the custom of the country. Unless its tap root can penetrate readily to a considerable depth in the soil, the plant cannot flourish to perfection. It is found that an addition of a few inches to the depth of the plough furrow causes a two-fold or three-fold increase in the quantity of the cotton, as well as an improvement in its quality.

2. The use of superior exotic seed. In Dharwar and other districts, the yield per acre from American seed, with the present imperfect agriculture, is double that obtained with native seed; and the produce raised from it realises a considerably higher price than any other kind of Indian cotton.

3. Sowing of the seed at regular distances, so as to allow space for the necessary work or hoeing, weeding, &c.

4. The application of manure, combined with a proper rotation of crops.

5. Judicious irrigation—an important operation in many parts of India.

6. The selection of seed from the finest bolls for each succeeding year's growth. It is thought that on particular soils unsuited to exotic cotton, or where good foreign seed cannot be procured, this system of selection would effect a marked improvement in the quality of the indigenous cottons.

Another main cause of complaint against Indian cotton is its mixed and dirty condition. It is absolutely essential that the Indian planter should adopt the American system of commencing to gather the ripe cotton as soon as a number of mature bolls can be seen, continuing to pick it from day to day as it ripens, and carefully assorting the crop into two or three qualities as its condition may require; also that he should use every precaution against the adulteration of the cotton with sand or rubbish. Attention to these particulars would amply repay the ryot for his trouble; it would render his produce of greater use to the manufacturer, and thereby ensure for it a largely increased price, and a more constant demand.

To afford the ryot tangible evidence of the kind of cotton most in request in this country, and which it should be his object to equal, the Cotton Supply Association have sent out to India in large number samples of American-grown Orleans cotton, which may be obtained on application to Messrs. Peel, Cassels, & Co., Bombay; Messrs. Mosely & Hurst, Calcutta; or Messrs. Line & Co., Madras, their honorary agents.

The Association issue this circular in the hope that British Government officers in the cotton districts of India will cause it to be translated into the vernacular, and distributed freely amongst ryots, native middlemen, and others who can exercise a direct influence on the quality of Indian cotton.

— No. 62. —

Home Department—Revenue—No. 11, of 1862.

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B., Secretary of State
for India.

Sir,

WITH our Letter, No. 17 of 1861, dated the 1st of October, we forwarded to you the report submitted by Mr. Paterson Saunders, containing the result of his inquiries in the cotton districts of the Doab.

We have now the honour to transmit the accompanying report, furnished by Mr. Saunders, on the Province of Oude; together with a correspondence with the Government of Bengal, as to the advisability of any of the districts of the Lower Provinces being visited by that gentleman.

Letter from Secretary to the Chief Commissioner of Oude, No. 1049 dated 10th April, and Mr. Saunders' report. To Bengal, No. 2271, dated 5 May, From ditto, No. 286, dated 17 May.

Mr. Saunders proceeded to England by the last steamer.

We have, &c.

*Elgin & Kincardine.**R. Napier.**H. B. Harrington.**W. Grey.*

Fort William, 2 June 1862.

Enclosure 1, in No. 62.

From *Charles Currie*, Esq., Secretary to the Chief Commissioner of Oude, to *W. Grey*, Esq., Secretary to the Government of India (No. 1049, dated Lucknow, 10 April 1862.)

I HAVE the honour to forward six copies of a report on the Province of Oude, by Mr. P. Saunders, Cotton Commissioner.

2. With regard to Mr. Saunders' remarks, paragraphs 46 to 49, on the ferries in Oude, I am desired to state that the Officiating Chief Commissioner has issued orders on this subject.

3. Such other points as require remarks will be noticed in the Annual Report.

REPORT on the Province of Oudh, with MAP, showing the Course of the Rivers, Roads, Forests, Waste Lands, and projected Canal from the Sardah, by *P. Saunders*, Senior, Cotton Commissioner.

From *P. Saunders*, Esq., Senior, Commissioner to Report on the Cultivation of Cotton, to *Charles Currie*, Esq., Secretary to the Chief Commissioner, Oudh.

Sir,

Dated Lucknow, 1 April 1862.

I HAVE the honour to submit, for the consideration of the Chief Commissioner, the following report on the Province of Oudh, detailing the results of my tour of inspection through the province, and the views that have suggested themselves to me in the course of my travels and investigations.

2. It will be proper to state that I have been desired not to confine my inquiries merely to the subject of cotton, but to extend them to everything connected with the capabilities of the province, and the development of its resources, and to suggest such measures as may appear to me desirable to attain this object.

3. To enable me to see the country properly, I have travelled in a buggy at an average rate of about 10 miles each day. In this way I have traversed the country from the Ganges to the frontiers of Nepal, and from Rohilcund to the Raptée.

4. Accompanying this report is a skeleton map on which is marked the route I have travelled, the principal towns, rivers, forests, waste lands, roads, &c. which will be referred to, and explained under the different headings of this Report. I may, however, describe here the route I adopted. From Cawnpore I travelled to Lucknow, and commenced the march from Lucknow towards Seetapore. On reaching Seetapore at the end of October, I was informed that it was too early in the season to attempt to go further north, and I therefore traversed the country bordering on the river Chouka, and reached Byram Ghât on the Gogra. Here, again, I learned that the Gonda and Baraitch districts were almost impassable from the late inundations, and I returned to Lucknow, *viâ* Nawabgunge. From Lucknow I travelled in a north-westerly direction, visiting Sundeela, Hurdul, Mahomdee, and from thence due east to Lukeepore, which latter place I reached at the end of November. In the beginning of December I marched due north, crossed the Sardar at Puchper Ghât,

I. India.

and penetrated to the river Mohan, which forms our boundary with Nepal. At this point I sailed down the Korealee to Birtapore, near the River Gurwa, and traversed the Sesoo forests on an elephant, returning to the Mohan. From thence I travelled through the Saul Forests lying between the Sardah and the Mohan, and crossed the Sardah at Beylah Ghât. From Beylah Ghât I marched to Phillibeet, Sitargunge, Huldwanee, Kaleedoongee, and visited the iron works of the Kumaon Iron Company at Dechouree. I returned, *viâ* Nynnee Tâl, to Huldwanee, and marched through Nanukmutha to Burmdeo. From Burmdeo I travelled down the right bank of the Sardah, by Madho Tanda, Sera Mow and Bira to Lukeempore. From Lukeempore I marched in a south-westerly direction, and reached the Gogra at Mullapore. Crossing the Gogra at Kuttai Ghât I ascended the left bank of the Korealee for a short distance, and then directed my march due east to Nanpara. From Nanpara, I travelled to Baraitch and Bulrampore, on the Rapter river. After examining the Rapter, I marched to Gonda, and recrossed the Gogra at Fyzabad. Pursuing my journey I crossed the River Gomtee at Sultanpore, the River Sie at Purtabghur, and the Ganges at Pophomow. I recrossed the Ganges and returned to Lucknow, *viâ* Nawabgunje, Selon, and Roy Bareilly. I think, then, I may say, that I have seen as much of the Province of Oudh as is required to give a general report of its soil, its forests, its rivers, its products, its roads, and its capabilities. When I commenced the march the rain crops were ripe for the sickle, and the cold weather crops were being sown. When I concluded it, the rice, sugar-cane, joar, bajra (millets), &c., had long been housed; and the wheat, barley, linseed, grain, and all the different varieties of the pea class, &c., were ready to be stored. Both crops, I may take the opportunity of saying were exceedingly good.

AREA, POPULATION, SOIL, AND CLIMATE.

5. From a paper published in the "Calcutta Gazette" on the 5th October 1861, entitled "Return of Sanctioned Public Works, Expenditure of 1861-62, compared with the Extent, Population, and Revenue of the several Local Governments of India," I find that the area of Oudh is estimated at 25,000 square British statute miles of 640 acres each, giving a total of 16,000,000 of acres, being nearly equal in extent to the territories lying between the Jumna and the Ganges, commonly called the Doab.

6. The population of this area is stated to be 7,000,000, being 280 persons to the mile. This average is less than that of the Doab, which numbers 350 persons to the mile, but it is still somewhat greater than that of China, which numbers 277 persons to the square mile.

7. The soil of the province is generally most fertile, and is well adapted to the growth of cotton, flax, sugar cane, and all the cereals and other crops that are grown in any part of India. There are, however, several large tracts of country in the vicinity of the Chouka and Gogra rivers, which are inundated during the rains, and are therefore unsuitable for the cultivation of cotton. But these tracts, from having been inundated, produce in the cold weather excellent crops of linseed and cereals. I had been informed that there were very large tracts of saliferous soils in Oudh which were entirely barren, and as Government prohibited the manufacture of salt, these tracts were rendered useless for any purpose. There are, no doubt, some large tracts of saliferous soils in some districts, but from my general observation of the country, I would pronounce them insignificant as compared to the whole area of the province.

8. The climate is more cool and more moist than that of the Doab. It is not subject to droughts and famines, and during the famine in the North West Provinces of 1860, Oudh supplied a large portion of the grain which was sent for the relief of the suffering people. The water is also much nearer the surface than it is in the North West, and masonry wells could be constructed at a much cheaper rate. Yet there are comparatively few masonry wells in Oudh, which may be attributed partly to the insecurity of property and perpetual state of warfare and brigandage during the reign of the Oudh kings, and partly to their reliance on the natural moisture of the climate, and the more frequent showers of rain during the cold weather. Yet the cereals and other cold weather crops would be very largely increased by irrigation, and wells and canals in Oudh would be found to be as profitable as they are in the Doab.

THE RIVERS OF OUDH.

9. The two great rivers of Oudh are the Sardah and the Korealee. The first debouches from the Himalayas at the point which divides the province of Kumaon from the territories of Nepal, marked in the map Burmdeo, which is the name of a considerable village situated on the banks of the river at the base of the hill. It runs through the Kumaon and Rohilcund teraees or forests, through large tracts of waste jungle forests in Oudh, through some of the most fertile districts in the Khyrabad division, and joins the Korealee at Mullapore. I crossed the Sardah at Puchper Ghât on the 3d of December, recrossed it at Beylah Ghât on the 16th December, and sailed on it at Burmdeo on the 9th January 1862. The volume of water appeared to me as great as that of the Ganges at Hurdwar, and the river, from being more confined by its banks, superior to the Ganges for purposes of navigation. The Korealee debouches from the Nepal mountains, flows the Nepal Tirhaee, and enters Oudh at the northern extremity of the Khyrabad and Baraitch divisions. The Mohan river which falls into the Korealee forms the boundary between Oudh and Nepal, on the Khyrabad side. On the Baraitch side the boundary is marked by small mounds of lime and earth, placed at stated intervals. I sailed down the Korealee from the Mohan river

river to Birtapore, and I pronounce it to be a river far superior in volume to the Jumna or the Ganges above Allahabad, and far better adapted to purposes of navigation. The Koreallee then joins the Sardah at Mullapore, and the two form the river Gogra. I crossed the Gogra at the very point of junction of the two rivers, at the place marked Kuttai Ghât, on the 2d of February, and I found it to be a broad and deep river. The Gogra then continues its course past Byram Ghât, Fyzabad, through the fertile districts of Azimburgh and Gazeepore, and falls into the Ganges near Patna.

10. These two fine rivers then, the Sardah and the Koreallee, forming when conjoined, the Gogra, will be the great channels for exporting the minerals of the hills, the timber of the forests, and the cotton flax, sugar, oil seeds, and the cereals of the richest districts of Oudh. By the Gogra also steamers will supply the population with the manufactures of England. Already steamers have ascended the Gogra as far as Fyzabad and Byram Ghât, and much fewer difficulties and obstructions have been encountered than are to be found in the navigation of the Ganges from Patna to Allahabad. I had an interview with Mr. M. C. Glynn, the agent of the Government steamers at Fyzabad, and he gave me his evidence on the subject of the navigation of the Gogra, as follows:—

Mr. M. C. Glynn.

Ques. "How long have you been agent at Fyzabad?"—*Ans.* Since the line has been established, two years ago.

"During that time can you say how many steamers have arrived at Fyzabad?"—About eight steamers.

"Are these steamers of a small size, or are they the same as the Government steamers running to Allahabad?"—They are the same steamers running on the Ganges, the Hoorungotta, the Adjahae, the Jibhoona, the Jumna, &c.

"Have these steamers encountered any difficulties in the navigation of the Gogra?"—No, none whatever. On the contrary, the captains of the steamers represent the river as better than the Ganges."

Mr. D'Arcy in his report on the "Navigation of the Gogra River from its junction with the Ganges to Byram Ghât," speaks favourably of the navigation of this river for steamers, and Captain Hockley, Superintendent of Ganges Works, North West Provinces, in a letter dated 22d September 1861, addressed to Mr. Reid, Deputy Commissioner of Fyzabad, concurs with the general opinions expressed by Mr. D'Arcy. Captain Hockley states that he had been in command of a Government armed vessel on the Gogra during the late mutiny, and is of opinion "that no great hinderance can be presented to Gogra Navigation throughout the year, provided that the draught of vessels be regulated not to exceed three feet six inches during the dry season, or those months when the river is shallowest, say between the beginning of January and end of April."

11. These gentlemen, however, speak only of the navigation of the Gogra as far as Byram Ghât, but I feel assured that steamers, if desirable, can ascend much higher. At Kuttai Ghât, where the Sardah and the Koreallee meet, my horses swam from the moment they entered the river until they reached the bank on the Baraich side, a distance of not less than 500 yards. I believe also that the Koreallee is navigable for steamers as far as the Nepal frontier, and perhaps also the Sardah, as far as Beylah Ghât.

12. On the Surveyor General's map of Oudh for 1861, the Sardah is marked as merging into the Chouka, which falls into the Gogra at Byram Ghat, but this is a mistake. On my way to Puchper Ghât, I crossed the Chouka, which was so paltry a stream that I drove my buggy through it. Again I crossed it on my way to Kuttai Ghât, and there it was not more than three feet deep. It appears to me to have no connexion with the Sardah, and I have so marked it in the accompanying map. Between Puchper Ghât and the Mohan, there are two or three large rivers, marked on the Surveyor General's map, but I found them to be only small streams, not above two or three feet deep. In all the maps that I have seen, and the official papers that the Officiating Chief Commissioner has been good enough to place at my disposal, there is the greatest confusion regarding the course of the Sardah and Chouka. The two are represented as joining together at a point near Pullea, in the Shajehanpore district, and again parting at some point lower down—not stated. The Chief Commissioner, in a letter to the Secretary to Government, Foreign Department, dated 10th January 1861, says: "The Chouka when it parts from the Sardah carries nearly the entire stream of this river with it, but at a place called Ramnuggur, the main volume of its water has formed a new outlet in a branch called the Ghajee, which joins, the Dhour, and their united waters discharge themselves into the Gogra at Mullapore." This is exactly what I found at Mullapore, the great volume of the waters of the river Sardah, which I had crossed at Puchper Ghât, falling into the Gogra or Koreallee at that point. At all places, before reaching the Sardah, I crossed the Chowkee, and found it to be an insignificant river, quite apart (some miles distant) from the Sardah. I may be wrong in stating that there is no communication between the Sardah and the Chouka, but, if there is, it is clear that the Chouka obtains very little water now from the Sardah, and the Chief Commissioner in the same communication says that below the point where it breaks into the Ghajee, the Chouka has become an insignificant stream, and it is probable that on a distant date it will dry up altogether.

13. I observe that the official documents speak of the navigation of these rivers, the Sardah and the Koreallee, as being difficult on account of the velocity of their streams, except for rafts and canoes, and dangerous on account of the number of snags.

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India.

Neither of these rivers is so strong or so rapid as the Burhampooter, where there is constant traffic of steamers, and the snags, although no doubt dangerous, are by no means numerous. When the commerce of the country becomes developed, the snags will soon be removed, and at no great cost. I have seen the river Murray in Australia, bristling with snags, that made even the navigation of small boats dangerous, yet for hundreds of miles the Australians have cleared that river and rendered it fit for steam navigation.

14. The next river of Oudh descending from the Nepal Hills, is the Raptee. It enters the Goruckpore district, near Bulrampore, and finds its way to the Ganges by a route with which I am not acquainted. That portion which I have seen in the Province of Oudh is too small for steam navigation in the cold weather.

15. The other rivers of Oudh are the Chouka, the Mohan, the Gurwa, the Goomtee, the Sie, the Sookunee, the Katna, the Ool, and other rivers, which are too small for steam navigation.

16. The whole province is bounded on the South by the River Ganges, which is too well known to require any notice from me.

17. When I regard the course and volume of the great river of Oudh, the Gogra, and its shorter distance from the Ganges, and consider the troublesome, dilatory, and even dangerous navigation of the Ganges from Patna to Allahabad, I do not hesitate to record my conviction (probably no new idea) that, when a railroad is made from Fyzabad to Allahabad, or from Byram Ghât to Cawnpore, *viâ* Lucknow, the Gogra will become the channel through which the wants of Oudh and the North Western Provinces will be supplied. A distance of 100 miles will be saved in the river navigation, while the distance from Fyzabad to Allahabad is only 80 miles, and an imperial metalled road is being constructed, with the view to its conversion into a railroad. Again the distance between Byram Ghât and Cawnpore, *viâ* Lucknow, is nearly the same, and the construction of a railroad offers no engineering difficulties. When the province becomes known, and the amount of traffic that will enter into it, and pass through it, is made patent to capitalists, these railroads will soon be constructed.

A CANAL FROM THE SARDAH.

18. My attention was called to the great facility and importance of constructing a canal from the Sardah, by Mr. F. Williams, the Commissioner of the Meerut division, and I examined the whole country through which a canal might be carried from that river, and the river itself where it debouches from the Himalyas at Burmdeo. I have traced on the map, the probable tract through which a canal would run, but I am not prepared to say that it is the exact course that it ought to take. This can only be determined by a professional survey.

19. When I wrote the section on the rivers of Oudh, I spoke of the volumes of the Sardah and Korealee merely from personal observation, and I believed that nothing was known of their actual volume by measurement. I was confirmed in this, by perusing Para. No. 144, of Colonel Baird Smith's third report, in which he states that nothing was known of the capabilities of these rivers beyond the general fact that they possess the main characteristics of first class irrigating streams. The officiating Chief Commissioner has, however, favoured me with the perusal of further papers on the subject, and I have obtained information from them, that entirely confirm the remarks I have made. Major J. Anderson, Chief Engineer Oudh, in a letter addressed to the Secretary to the Chief Commissioner, dated 16th April 1857, states that the volume of water discharged by the Sardah during the cold weather at the point where it leaves the hills, is 6,390 cubic feet per second, and the discharge of the Korealee, is 13,082 cubic feet per second. The combined discharge of both rivers opposite Byram Ghât, was ascertained by Lieutenant Hutchinson, after the most careful and varied experiments, to be 25,000 cubic feet, giving an excess of 6,000 cubic feet for the drainage of the Mohan, the Gurwa, the Chouka and some minor rivers. These are most interesting facts, and they enable us to contrast these rivers, so little known to the general public, with the supposed larger and more renowned streams of the North West Provinces. According to Colonel Baird Smith, the minimum discharge in ordinary seasons, of the Sutlej, is very nearly 5,000 cubic feet per second. The minimum discharge in ordinary seasons of the Jumna, according to the same authority, is nearly 3,500 cubic feet per second, and that of the Ganges at Hurdwar, in ordinary seasons, is 8,000 cubic feet per second; while that of the Ramgunga discharges only 500 cubic feet per second. Thus, we have the combined discharges of the Jumna and Ganges, giving 11,500 cubic feet per second, while those of the Sardah and Korealee give 19,472 cubic feet per second, which amply accounts for the great superiority of the river Gogra over the Ganges below Allahabad.

20. For a canal then from the Sardah at Burmdeo, there is a water supply of 6,390 cubic feet per second, and we have the authority of Colonel Baird Smith for stating that a supply of 5,000 cubic feet per second, represents a full state of efficiency for irrigation in the Ganges canal. That canal from Hurdwar to Nanon, in the Allyghur district, measures 180 miles. At that point it is divided into two branches—the one empties its waters in the Ganges at Cawnpore, a distance of 170 miles; the other runs into the Jumna near Calpee, a distance of 175 miles. The whole length of the one is 350 miles, and that of the other is 355 miles. A canal from the Sardah at Burmdeo, terminating in the Ganges near Allahabad, would not measure more than 300 miles. A volume of water could therefore be obtained

obtained from the Sardah, sufficient to supply a canal, equal in magnitude, to the Great Ganges Canal.

21. The facility of constructing a canal from the Sardah, both as to a damhead, and absence of natural obstructions in the territories through which it would run, is so remarkable, that it at once strikes the unprofessional as well as the professional eye. Mr. Williams in his letter, says, "a canal from the Sardah at Burmdeo, could be made for half the cost of the Ganges Canal, perhaps much less. The Solani Aqueduct, a grand place for a head-work, and all drainage, passed over superpassages. It would irrigate, by subsidising existing works, half Bareilly, all Shahjehanpore, and nearly all Oudh. Long belts of Government forest, fine cereal and cotton land, would be opened up for settlers, with canal conveyance from their doors to Fyzabad." I will also give extracts of evidence taken by me from gentlemen, who, from long residence in the neighbourhood of the Sardah, and professional attainments, are eminently qualified to give opinions on the subject.

Frederick Read, Esq., Superintendent of Forests in Oudh.

Dated Burmdeo, 9 January 1862.

Ques. "How long have you been Superintendent of Forests?—*Ans.* I have been Superintendent of Forests since 1857.

"Before you were appointed to the superintendence of forests, what was your occupation in India?—I was an officer on the Ganges canal from its commencement in 1844 until 1857.

"My attention has been called to the great importance and facility of making a canal from the Sardah at Burmdeo, to irrigate a large portion of Rohilkund and Oudh; what is your opinion of such a project?—I think very highly of such a project. A canal from the Sardah at Burmdeo, would irrigate, not only the cultivated land through which it would pass, but would enable settlers or zemindars to bring into cultivation the large tracts of waste lands which extend from the base of the hills down the right bank of the Sardah to a considerable distance.

"Are there any engineering difficulties in the way of making such a canal, either at the head, or in the tract of country through which it would run?—None but such as can be easily overcome. The Sardah at Burmdeo is peculiarly adapted to the easy construction of a permanent dam and headworks of a large canal, and the country through which it would run presents no engineering difficulties whatever, or any expensive works, such as the Solani Aqueduct on the Ganges Canal.

"On approaching the Sardah near Burmdeo, there is a ridge of land which appears to the traveller to be more elevated than the river bed, where the dam would be constructed, and it has been stated to me that this would form a serious obstruction to the formation of a canal. What is your opinion on this point?—My opinion is that this would form no obstruction whatever. I believe that the level of the river at the dam is higher than this elevated ground; but if it were not, and it were necessary to make a deep cutting through this land, it would not extend a distance of more than three to five miles.

"You have been many years on the Ganges canal; do you think the expense of a canal of equal size from the Sardah through Rohilkund and Oudh would be as great as that of the Ganges canal?—I was a canal officer from its commencement to its completion, and I think a canal carrying the same volume of water as the Ganges canal could be constructed at much less cost, as there would be much fewer expensive works.

"Do you believe the volume of water in the Sardah at Burmdeo is equal to that of the Ganges at Hurdwar?—Yes, I believe so.

"Would you recommend it to be made a navigable canal?—Yes, certainly, but on a different principle from that of the Ganges canal."

Elliot Colvin, Esq., c.s., Superintendent of the Rohilkund Terai.

Dated Phillibheet, 17 January 1862.

Ques.—"How long have you been superintendent of the Rohilkund Terai?—*Ans.* I have been superintendent for three years.

"There has been a great improvement and increase of cultivation in the Terai latterly. How has this been brought about?—I am permitted by the Government to devote all profits beyond the Government demand to the improvement of Terai; and this improvement is chiefly brought about by taking advantage of the numerous existing streams, making canals for irrigation.

"Under this system then do you consider that the cultivation of new lands will increase annually?—Yes. Wherever I can insure a supply of water I am certain of a demand for land.

"Then a large canal running through the Terai would be very advantageous?—Yes, if the water is available.

"What do you think of the project of a canal from the Sardah at Burmdeo?—I believe it would be of incalculable benefit to the country through which it would pass.

"Is the volume of water in the Sardah at Burmdeo equal, in your opinion, to that of the Ganges at Hurdwar?—I am of opinion that the volume of water at Burmdeo, if turned into a canal, is sufficient to irrigate all the lands to which the ramifications of the canal would extend, although from personal knowledge I am not prepared to say that it is equal to the Ganges at Hurdwar.

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"The river at Burmdeo appears to me to be admirably adapted by its natural formation to the construction of a dam or headwork. What is your opinion of this from personal knowledge?—Speaking as an unprofessional man, I believe that you might turn the whole river down a canal a little above the Burmdeo Mundee. There is a natural barrier on the Nepal side, and on the Rohilkund side the canal would take away the water."

Mahommed Ulee Noor, Zemindar of Sherpore, near Madho Tanda.

Dated 20 January 1862.

Ques. "I have not seen any wells in the country through which I have passed, although the wheat crops are very extensive and seem to require water; what is the reason of this?—

Ans. Formerly the country did not require much water, as the cultivation was made on jungle lands, and the rain we had was enough. Now we require water, and we sometimes made kucha wells; but on account of the sandy soil they fall in soon, and do not last more than a season; pukka (masonry) wells are too expensive to make.

"Then a canal running through your country would be of great benefit to you?—Yes, of very great benefit.

"Would there be any great difficulty in bringing a canal from the Sardah through your country?—None whatever, there are no rivers or hills in the way. Six years ago a Sahib, called Anderson Sahib, came from Lucknow, and inspected and measured the country for a canal; but the mutiny broke out, and I never heard anything more about it."

22. To the above evidence I can add my own personal observation. I have traversed the whole country through which the canal would pass from the Ganges to Burmdeo, and I have done this in a wheel vehicle, carrying my luggage in native carts, and I have encountered no obstacle whatever to the construction of a canal. At Burmdeo I examined the river, and the facility for constructing a dam, or headwork, was obvious to the most superficial observer. On the Nepal side of the river there is a natural rocky barrier extending for more than a mile, varying from 50 to 80 feet high, which would form an effective barrier to the river escaping on that side when a head was constructed. On the British territory side there is no barrier, or elevated ground to impede the water being conveyed into a canal, and I believe, with Mr. Colvin, that if desirable, the whole river could be emptied into a canal. The country through which it would run, unlike that through which the Ganges canal runs, is almost destitute of wells, and the extent of good culturable land at present lying waste is enormous. I shall notice these lands and their capabilities under the heading of "Waste Lands."

23. There is one objection that may be made to the construction of a canal. It may be objected, that if the waters of the Sardah are carried off in a canal, with a terminal point at the Ganges, it will interfere with the successful navigation of the Gogra. Looking at the great volume of water of the Korealee, a volume greater than that of the Jumna and Ganges combined, and at the fact that the lower Sardah would still carry the drainage of the Nepal Terai to the Gogra, I am inclined to think that it would not effect the navigation of the Gogra, but I am not competent to give a decided opinion on the subject. If, however, this objection would be considered a valid one by professional men, the remedy would be to change the course of the canal, and fix its terminal point a little above Bryam Ghât, instead of carrying it to the Ganges.

24. It would be trespassing upon the time of the Officiating Chief Commissioner, if I were to enumerate all the advantages to be derived from such a canal by the Government and the people. But as this canal will run through the terais of Kumaon and Rohilkund, and through some of the forest jungles of Oudh, considered at present so unhealthy during the rainy season, I will transcribe, for his information, the very interesting evidence of Major Ramsay, c. b., Commissioner of Kumaon.

Major Ramsay, c. b., Commissioner of Kumaon, dated Huldwanee, 4 January 1862.

Ques. "How long have you been in Kumaon?—*Ans.* I have been 22 years in Kumaon and Gurhwal, in the civil department, latterly as Commissioner.

"Attached to the Kumaon hills is a considerable tract of terai or low forest land, can you state its probable extent?—The land at the foot of the Kumaon hills is known as the Bhabur or waterless forest, extending the whole length of the Kumaon hills, and the whole tract may be 1,000 square miles in extent.

"When I travelled through these tracts 17 years ago, I remember the cultivation was exceedingly scanty, now it has been very largely increased. How has this been brought about?—By a system of irrigation, utilizing the hill streams, which formerly were, to a very great extent, lost in the shingle. The cost of the canals so made, was defrayed by the profits accruing from the sale of the forest trees, and the revenue derived from the increased area of land brought into cultivation by the canals.

"What crops do the cultivators chiefly grow?—In the hot weather, rice and millets, and a little sugar-cane, and in the cold weather mustard very extensively, wheat, barley, gram, &c.

"What is the general character of the crops; are they abundant, or otherwise?—I should say abundant, exceedingly.

"Has cotton been grown in any part of the Bhabur?—Yes, indigenous cotton is grown by the natives, sufficient for their own consumption.

"Seventeen years ago, these forests were considered so unhealthy, that no one would reside in them during the rains; is this the case now?—In all the cleared spaces the country

country is comparatively healthy, and the people reside on them all the year round. During the mutiny a detachment of European officers and Ghoorkas, about 1,200 strong, remained at Huldwanee until the month of June, and did not suffer from bad health. As clearances are made, the healthiness of the country improves."

25. When I traversed the Kumaon terai 17 years ago, there were only a few scattered huts of the hillmen who, in the cold weather, descended to the plain to cultivate their cold-weather crops, and after the harvest of March and April, hurried back to their hills. At Kaleedoonjee, there was but the solitary bungalow for travellers journeying to Nynee Tâl. The country was considered so unhealthy that travellers rushed through it as they would through a flame of fire. Those that passed rapidly through it escaped, not always scatheless; those that lingered in it suffered severely from jungle fever or perished. Now, from Burmdeo to Dechouree, there are numerous villages and large tracts of cultivated lands. Huldwanee is a large town, with an excellent bazar, and Kaleedoonjee the same. The iron ores of the hills are being worked by a European company, who have European managers and European workmen, who enjoy excellent health. The appearance of the country bore the most marked contrast to my former reminiscence of it. The numerous canal streams of purest mountain water, traversing the plains in every direction, the vast sheets of young wheat of deep green colour, growing beside equally large fields of mustard, then covered with its yellow flowers, and the forest-clothed Himalayas, rising behind the whole, formed a scene which the admirer of landscape would have rejoiced in, while it would have furnished matter for important reflection to the capitalist and to the financier.

26. What has been done by Major Ramsay and Mr. Colvin on a small scale, can be accomplished on a large scale by the construction of a canal from the Sardah.

The Roads of Oudh.

27. The whole province, as a glance at the map will show, is covered in every direction by roads, some of them imperial metalled roads, and others unmetalled, made with the funds arising from Road and Ferry Fund, and grants in aid. The imperial metalled road from Cawnpore to Lucknow has long been completed. The others, from Fyzabad to the Ganges near Allahabad, from Fyzabad to Lucknow, from Fyzabad to Gonda, and from Seetapore to Shahjehanpore, are being rapidly constructed, and will soon be completed. The unmetalled roads are wide tracts which, from the absence of wheel traffic, are generally very good. On all the lines of these roads I observed that kunkur was abundant and good, with the exception of the Baraitch and Gonda districts. In these latter the kunkur was scarce and indifferent; yet on the imperial road from Gonda to Fyzabad I observed that the contractors obtained as much kunkur as was required, although at more labour and expense than in other parts of Oudh. The unmetalled roads, however good at present, would soon be cut up with cart traffic, and many of them are impassable during the rains. Bridges, too, are very much wanted in every direction. The financial difficulties of the Government have prevented the construction of metalled roads and bridges on an extensive scale; but if funds can be found for carrying out these all-important works without disturbing the finances or resorting to loans, it would, in my opinion, be a most wise policy to convert them to that purpose. I will deal with this subject in the following section on,—

Waste Lands.

28. The waste lands of Oudh have been estimated at 600,000 acres; but this estimate, as far as I have ascertained, rests upon no good foundation. I believe they largely exceed that number; and if we add to them the belts of waste land running from Oudh into Rohilkund, which would be irrigated by the proposed canal from the Sardah, it would be a moderate calculation to estimate them at 1,000,000 of acres. I have travelled through belts of forest jungle extending from Aligunje to Bira, Beylah Ghât, and Burmdeo. Others, apparently branches of the same stretch from above Philibeet down through the Mahomdee district to Koomba and Mitoulee. These lands support a fair forest jungle; and on their outer edges, the portions cleared and cultivated by the villagers, produce very good crops. I examined the soils to a depth of three and four fêet at different distant points; and as they appeared to me to be very similar to the tea soils of Assam, Sylhet, and Cachar, I sent specimens to the Government of India to be submitted to Mr. Oldham, superintendent geological survey of India, for analysis. These specimens were selected from three different points; from the belt opposite Beylah Ghât, from the belt at Koomba, and from that near Bira. The first specimens—those from Koomba and Beylah Ghât—were stated by Mr. Oldham to be too small in quantity to obtain as satisfactory an analysis as was desirable; but the third, from Bira, was sent in sufficient quantity, and the following is Mr. Oldham's report, the result of a "careful examination":—

"The detailed quantitative analyses of these soils fully support the results arrived at from the qualitative trials of the smaller specimens first sent. The soil and sub-soil do not differ very materially in physical character or in chemical composition. The principal difference is in the colour, the soil being darker; which on wetting the specimen, is seen to arise from minute particles of partially decomposed vegetable matter disseminated in the soils. There

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seem to be few or no pebbles also in the soil, whereas they occur in fair number in the sub-soil. Both are sandy and micaceous, and indicate the soil from whence they have been derived to be the debris of gneissose and other similar rocks.

"There is no prominent peculiarity in the soils. The portion insoluble in acids amounts to 85 per cent., chiefly silica and clay. Of the remainder, not more than 4·85 of organic matter is found in the soil, with scarcely a trace of lime or of alkalies. About 3 per cent. of oxide of iron, and similar amount alumina occur.

"The soils seem open, free, and porous, and would, I fancy, be readily affected by any admixture that might be added for their fertilisation; and would also be strongly and rapidly affected by well-judged irrigation."

Composition of Soils from Oudh.

	Soil.	Sub-soil.
Silica and clay (insoluble) - -	84·95	86·38
Water - - - - -	2·15	1·45
Organic matter - - - - -	4·85	3·65
Oxide of iron - - - - -	3·21	3·33
—alumina - - - - -	3·60	4·44
With trace of phosphate of lime -	·44	·25
Alkali with trace of magnesia -	·80	·50
Sulphuric and hydrochloric acid -	100·	100·

In my communication to Government forwarding these soils, I stated by belief that they were very similar to the tea soils from Assam and Sylhet analysed by the late Mr. Piddington, and on this point Mr. Oldham replies as follows:—

"Mr. Saunders refers to previous analyses of tea soil from Sylhet by Mr. Piddington, and considers the soil from Koomba as similar. In many respects it is; but if Mr. Piddington was correct in supposing that the presence of a large proportion of iron in the state of carbonate was the distinguishing characteristic of these tea soils, the soils of Koomba are essentially distinct, the iron being almost entirely in the state of oxide."

29. Whether the soil of these waste lands, and the climate of Northern Oudh, which I have been assured by some residents is subject to the hot winds of April, May, and June, but less in intensity than in the Doab, although this is denied by others, are suitable to the growth of tea, can only be determined by experiment. But that they are suitable to the growth of cotton, sugar-cane, and cereals, I have no doubt whatever. With irrigation such crops would be abundant.

Since writing the above, I have had an interview with a proprietor of a grant in the Mahomdee district, and his evidence entirely corroborates the opinion I have expressed of the capabilities of the soil of the jungle lands, and the vast importance of canal irrigation.

D. G. Gilmore, Esq., Grantee in the Mahomdee District, Gohurnat, seven miles from Aligunj.

Ques. "When did you take up your grant in the Mahomdee district?—*Ans.* I took up my grant in December 1860.

"What is the extent of your grant?—Five thousand acres.

"What is the nature of the land of your grant: is it forest or grass land?—It is forest land.

"Since you took the grant, what crops have you grown upon it?—The khureef or rain crops I have grown, are sunn or hemp, sonai, a finer species of hemp, tilie, or oil seed, and rice.

"Did those crops grow well?—Yes, very well; the hemp crops grew from three and a-half to seven feet high, the sonai being the highest; the tiliee, or oil seed, was so abundant that I intend to confine myself entirely to that cultivation, as it always commands a good market. The wild animals also, such as neelgye, &c., do not eat it until it begins to blossom, so that it requires to be watched only a few days. The rice also was very good.

"What crops did you grow in the cold weather?—Wheat, barley, ulsee or linseed, sursoo or mustard seed, and tessee, another oil seed, gram, and mussoor dal (pulse).

"Do these crops grow well?—Very well indeed. The natives say that these crops grew better than in their own villages, and all without irrigation.

"But

"But would not irrigation make those crops more abundant?—Yes, I think it would treble the quantity of grain if irrigation could be obtained.

"If a canal were brought from the Sardah through your lands, would it not add to their value?—Yes, a canal would be invaluable; it would increase the value of the land and its productions, and would, no doubt, assist in navigation too, in carrying the produce to Lucknow or the Ganges; whereas, at present, there is no means whatever of obtaining carriage.

"Have you tried to grow foreign cotton on these lands?—I sent for New Orleans seed, but it arrived too late for the sowing season.

"Do you think it would grow there?—Yes, I believe it would; as indigenous cotton is grown by the villagers near my grant.

"Do you find the country healthy?—It is a remarkably healthy country during the cold weather, but unhealthy during the rains. I suffered a good deal from fever.

"What kind of house do you live in during the rains?—I lived in a large tent, with a thatched roof over it.

"Had you any floor other than the ground?—I had the ground raised about three or four inches with mud, and a layer of bricks upon the top.

"Did you find it very damp during the rains?—Very damp.

"Did you never think of building a house raised upon piles?—No I did not think of it. Mr. Carnegie, my neighbour, however, built his house with the floor about five feet from the ground, and he enjoyed capital health during the rains.

"Do you find difficulty in obtaining labour?—Yes, very great difficulty.

"Why do you not draw labour from Rohilcund or the Doab?—I could only obtain such labour by making advances and taking contracts, and I have no security that such contracts would be fulfilled. I did make an advance to labourers, which they took, and next day they had disappeared.

"How then do you carry on your plantation?—I have got about 40 good men from the neighbouring villages, who remain permanently with me. I make them presents of tobacco, cloth, grog, and a pig now and then. I also pay them three rupees a month, while the native zemindars pay only one rupee eight annas.

"How many labourers could you employ if you could get them?—I would be very glad to get 300 labourers.

"In an official document I observe that 60,000 acres of grants have been given to natives in the Mahomdee district; are they clearing the jungles and cultivating these lands?—No. I have ridden through many of their grants, and have never seen the least attempt at clearing or cultivating the lands, nor do I believe they ever will, or intend to do so.

"What do they take grants for?—I think for grazing purposes, and obtaining cheap firewood, and the sapling saul trees for roofing their houses.

"Are all the other European grantees working their lands as you are?—Yes; much in the same way.

"Are you then of opinion that the soil of these grants is very fertile?—Yes, exceedingly fertile. The leaves of the forests have been falling and rotting for centuries, while vast herds of cattle have been grazing through them for equally long periods of time."

30. In the districts lying between the Gogra and the Raptee there are also large tracts of waste lands, covered with forest jungle, which require only the skilled cultivator, backed by the capitalist, to convert into productive plantations. Roads and bridges are required to assist in developing the wealth of these wastes, and of the country generally; and here I will discuss the point alluded to in the last paragraph on the subject of roads.

31. After the publication of the Resolution of his Excellency the Viceroy and Governor General in Council, dated 17th October 1861, I had the honour, in a personal interview with his Excellency at Lucknow, to suggest that the proceeds of the sale of waste lands should be devoted to the physical improvement of the provinces from whence the funds were derived. I stated, as my view, that the proceeds of the sale of waste lands need not be regarded in the same light as the proceeds of the redemption of the land tax; that in applying them to other purposes than those of revenue, no faith would be broken with the public creditor, nor would the imperial revenue be any way affected by such a disposal of the funds. The countries, also, where such waste lands abound, the tea provinces of Assam, Cachar and Sylhet, the coffee districts of the Neilgherries and the Wynad, the vast wastes of Khandeish, where cotton grows well, &c., are the countries where communications are most defective, and the application of the funds derived from the sale of their own waste lands, to their own improvement, seemed to me a measure as just as it would be advantageous to themselves, and eventually to the whole empire. Since then, I observe that his Excellency has stated his views in Council on the subject. His Excellency in Council has decided that the proceeds of such sales are to be viewed in the same light as the proceeds of the redemption of the land tax, and must be dealt with in the same way. His Excellency in Council very justly argues that, although these lands produce no direct revenue to the Government at present, they eventually will do so, and, in alienating them for ever, the Government is disposing of a future source of revenue, which the future wants of the Government might require. Admitting the correctness of this view, and it cannot be gainsayed, the question will arise whether the funds can be invested in a manner more profitable to the future revenue of the Government than in the manner suggested—namely, by improving the communications of the country. I do not think so. I believe the revenue will be indirectly benefited much more by the improvement of the communications and the

I.
India.

consequent development of the mineral and agricultural resources of the soil, than by the investment of the funds in five per cent. paper. In this point of view the question is still open to discussion, and I venture to express a hope that the decision of his Excellency the Viceroy and Governor General in Council will be favourable to the opinion that I have hazarded, an opinion based upon long experience, much travel in the provinces where the waste lands abound, and dictated by the truest regard for the prosperity of the empire.

32. I trust it may not be out of the scope of my commission, to record my entire concurrence in the rules regarding the sale of waste lands laid down by the officiating Chief Commissioner—rules that stand in strong and favourable contrast with the rule of the North West Provinces, which permits the villagers to gather the spontaneous productions of the soil in the waste lands sold in fee-simple, thus destroying the proprietary right—for under the plea of gathering such productions the villagers would plunder the crops with impunity—and that rule which mulcts the first pioneers into the wastes, compelling them to pay double the purchase money for the lands they have brought into cultivation. I confess I utterly fail to perceive upon what, even colourable, grounds such decision should have been arrived at, a decision unjust to the first settlers, and unsupported by reasons of expediency or necessity, for the additional sums so obtained cannot be large or of importance to the Government.

Redemption of the Land Tax and Permanent Settlement of the Land Revenue in Oudh and the North West Provinces.

33. In my first report on the Doab I expressed an opinion that a measure permitting the redemption of the land tax would be a failure, and it has been asserted that I disapproved of such a measure. This is not borne out by the tenour of my report. I stated my belief that it would not succeed because the great native landholders would not redeem the tax. If such a measure could be carried out in entirety, it would bind the natives of Hindoostan, in all the millions they would pay for the redemption of the tax, not only to keep the peace towards the British Government, but to support it against all foreign enemies. Fully admitting now, as I did in my previous report, the value of such a measure, if practicable, I must again state my conviction that it is not the want of the landholders. Nearly six months have elapsed since the publication of his Excellency the Viceroy and Governor General in Council's Resolution, and to this date not a single landholder in Oudh, or the North West Provinces, has applied for the redemption of the tax upon his land. What the native landholders do want is a fixity of the public demand, that, when the settlements, now being made, are completed, they should be fixed in permanence. I will here give the evidence of a most intelligent native in Oudh, and from the unanimity of evidence I have gathered in every quarter, I select him as the representative of the whole.

Evidence of *Mirza Abbas Beg*, Assistant Commissioner, dated Hurdul, 17 November 1861.

Ques. "Are you a landholder in this country?"—*Ans.* Yes, I hold a jaghire from Government, for services performed during the mutiny, which pays a revenue of 5,000 rupees.

"Under what settlement do you hold this jaghire?"—Under the half asset settlement for three years, which was made in 1859, but will be resettled again when the settlement officer arrives in 1862.

"Do you expect that your revenue will be increased?"—If I sink wells, and improve the cultivation by planting sugar-cane and other valuable crops, my revenue will be increased.

"Does that consideration prevent you from improving the cultivation and sinking wells, &c.?"—Yes, certainly, I will not improve my lands until I get a longer or a permanent settlement. I proposed to a neighbour, of mine, who holds a jaghire from Government, to go into partnership with me, and to sink wells, and have Persian wheels the same as in the Punjab, but he refused to do so, and said I would be a great fool to make such improvements, as my revenue would be increased. He advised me to make as much profit out of the land as I could, and not to spend money upon it.

"But to avoid this you can now redeem your land tax by paying one lakh of rupees, and then the settlement officer will never again come near you, and your property will be exempt from land revenue for ever?"—My reply is, in the first place, I have not got the money; in the second place, if I had the money, I would not buy a revenue of 5,000 for a lakh, when I can make 10,000 without the trouble of cultivation and expense of management.

"Do you think the landholders are generally of the same opinion?"—Yes. I do not think they will buy, and I have heard one man say, that Government wants money, and this is the way to get it. If we give our money there may be a change, and who can say what the future will be.

"What then do you think is the real want of the country?"—A permanent settlement on the half asset principle, and no other tax upon land. If I got a permanent settlement of my jaghire, I would retire from the service of Government, after having served for 26 years, without pension, give up my 600 rupees a month, and go and improve my estate."

34. As *Mirza Abbas Beg* speaks English well, I have transcribed his evidence word for word as he gave it to me. He is a native of the Punjab, and spoke out more boldly than the

the natives of Oudh. The latter would not say directly that it did not suit their interests to redeem the land tax, but invariably expressed their entire inability (*quodrut nuheen*) to do so.

I.
India.

35. I will here take the opportunity of saying that, while in my previous report I expressed an opinion that a measure for the redemption of the land tax would be a failure, and that it would lead to suspicions, and unsettle the minds of a very suspicious people, I entirely concur in the wisdom and policy of the Resolution of his Excellency the Viceroy and Governor General in Council permitting the redemption of a portion of the land tax. It is a prudent and tentative measure, a concession to the demand from England and from the press of India, and in no way calculated to disturb the minds of the millions of Hindostan.

36. The want, then, of the landholders is a permanent settlement, and on this subject I will not waste further argument, for even his Honour the Lieutenant Governor of the North West Provinces has surrendered the whole question when, in the 23d para. of his Minute, dated Camp, Ghatumpore, 27th January 1862, on my first report, he says, that his comments upon it are not made "with any intention of disputing the expediency of converting the settlements of these provinces (subject to certain conditions) into a permanent settlement; for it is to that issue that the extension from time to time of the period of settlement has been gradually advancing." His Honour contends that, however prepared the North West Provinces may now be for a permanent settlement, they were not so in 1803 when settlements were "formed without measurements of area, and it is believed, without much independent inquiry, and the assessments were little better than mere guess work, guided in some measure, perhaps, but very imperfectly, by kanongoes' estimates, and untrustworthy records of village collections." The correctness of this statement cannot be disputed, and the impolicy and injury to the public revenue of declaring a settlement permanent without proper measurements and by "guess work" will be universally admitted. While advocating a permanent settlement, I do not propose that the old settlements, as they stand, should be declared permanent, as was done in Bengal by Lord Cornwallis, to the great injury of the revenue, but that the new settlements, with the areas of lands carefully surveyed, should be declared permanent.

37. I will also admit that where a country has come recently into our possession, and, from previous misgovernment and a perpetual state of warfare, large tracts of culturable land, possessed by talookdars, are lying waste, and not assessed on that account, temporary settlements may be advantageously made until time, peace, and security of property enable proprietors to bring such lands into cultivation.

38. Such is the case in some parts of Oudh. The districts of Khyreeghur, Bairaich, and Gonda, contain vast tracts of culturable lands, belonging to talookdars, lying waste and unassessed, and these might be exempted for a few years from a permanent settlement; so also might some portions of the north of Rohilcund and the Tirah of Kumaon. But if the Supreme Government of India proclaims the principle of permanency of settlement, and directs that all districts, where the areas of measurement have been completed, and they are considered to be in a fit state for such permanent settlement, be at once settled, it may well be left to governors of provinces and chief commissioners to exempt such districts as are manifestly unprepared for such settlement.

39. To prevent any complaint, or accusation of hostility on the part of governors of provinces to the measure of a permanent settlement in exempting certain districts, by the landholders in such districts, a clause might be introduced to enable any landholder, in an exempted district, to call for a special survey of his talooka, with a view to its being permanently assessed. And when it was measured, and all cultivated and culturable lands were fairly valued, a permanent assessment might be at once made.

40. In illustration of what I have stated, regarding the large tracts of culturable lands lying uncultivated and unassessed in the north of Oude, I will give an extract from the evidence of Mr. Read, the Superintendent of Forests.

Mr. Read.

Ques. "In travelling through the Government Saul Forests, extending from the river Korealee to Singhaee, or more properly Newul Khar, I have observed many large open tracts, called by the natives koondlas, covered with grass, with generally a small village in the centre, surrounded by a small patch of cultivation; to whom do these belong?—They belong to Rundoo Sah, talooqdar of Khyreeghur.

"All the uncultivated land of these large koondlas appeared to me as good as the portions cultivated around the villages; is this the case?—In my opinion, to a very great extent, it is.

"Then why does the talookdar not bring them into cultivation?—The reason is, that if he cultivated to the full extent, the Government demand would be largely increased at the next assessment.

"Then does he hold his talook under the three years' settlement?—Yes. I believe he holds it under the three years' settlement, the same as all the other talookdars of Oudh.

"From Singhaee or Newul Khar to the banks of the Saradah the country is generally well cultivated;

I.
India.

cultivated; to whom does this belong?—As far as the old bed of the Sardah it still belongs to Rundoo Sah.

"Then the whole tract of cultivated and culturable country from the Koreealee to the old bed of the Sardah belongs to Rundoo Sah?—Yes; and the breadth extends from the Mohan River, which forms the Nepal boundary west of the Koreealee, to the river Sardah.

"What revenue does the talookdar pay for this vast tract of country?—I have heard it stated to be 22,000 rupees, and I have also heard that he pays 20 rupees annually to Government for villages which produce him 400 rupees a year.

"Do you believe this talook to be capable of much increase of cultivation and consequent increase of rent roll?—Yes, I believe it to be capable of a vast increase of cultivation and consequent increase of rent-roll.

"The measure of a permanent settlement has often been recommended; do you think such a settlement would be advisable with regard to such a talook, or tract of country, as that possessed by Rundoo Sah?—Certainly not. Government would lose largely by such a settlement unless the culturable tracts were assessed as well as the cultivated.

"If the culturable tracts were assessed (at a lower rate, of course) as well as those cultivated, what, in your opinion, would the probable increase of revenue to the Government be?—It would be impossible to estimate it with any degree of accuracy, as the cultivated area bears so small a proportion to the culturable; but if the culturable was moderately assessed the revenue would probably be trebled."

41. In the Baraitch district, I also travelled through miles of grass lands uncultivated, with patches of cultivation, sometimes in the centre, sometimes on the outer edges, and the crops on these patches were exceedingly good. On the road from Baraitch to Ekouna there are thousands of acres of such lands. I conversed with some of the lumberdars, or headmen of the villages, and inquired why such lands, apparently so good, were not cultivated. They admitted that the lands were very good, but they had not the "*pisa*," the means to bring them into cultivation.

The Forests of Oudh.

42. A large portion of the saul and sesoo forests of Oudh were lately ceded to Nepal, but extensive forests of these trees still remain, which with proper conservancy and management, will continue to supply timber for an indefinite number of years. Indeed, with proper management, they need never be exhausted, for without any assistance from man the seed falls, germinates and grows, and the young saplings are so numerous through the forests that they require extensive thinning. I have traversed on elephants the principal portion of these forests in every direction, accompanied by the superintendent himself. I remarked to the superintendent the wretched state of conservancy in which they were kept. In fact, there had been no conservancy. The saul saplings were far too numerous ever to arrive at the size and girth required for useful timber, and the larger trees were very generally attacked by the elephant creeper (*argyreia speciosa*, I am informed is the botanical name) which, in those forests, attains the most gigantic proportions and strength. It winds like a huge boa constrictor, around the trunk of the tree till it reaches the topmost branches, and then throws out numerous tendrils, bearing large broad leaves, which cover the saul tree as with a mantle. Strictly compressed in the folds of this vegetable boa, so strictly that when cut away, a deep spiral track is stamped on the trunk, and excluded from light and air by its mantle of leaves, the saul tree languishes and, if it does not die, (which I have not seen) it ceases to grow. Again I observed an immense number of trees, aged in appearance, and poor in branch and leaf. I noticed that these trees had been ringed not entirely, but about three quarters round the trunk. I was informed that during the time of the King of Oude a large trade had been carried on in raul or rosin, which had been obtained from the saul trees by ringing their trunks, but that the trade had been prohibited since the annexation of the country. I gave it as my opinion that, from the severe bleeding, these trees would be found worthless for timber, and that they must be removed, an opinion in which the superintendent did not at the time coincide, but since I left the forests, I received a letter from him, from which I extract the following paragraph: "On the north-west of this place (Newul Khar) there is an extensive tract of bark-damaged saul trees. These trees are very large in girth, and to all appearance first-class timber. I commenced working the tract, and found that every tree that had been barked for the purpose of extracting raul was rotten at the core. The tree, when sawn up, has the appearance of a spongy substance; the colour of the damaged portion is dull, and much weaker than the sound wood. It looks as if all the blood from the tree had been sucked from the centre. You were quite right when you said I should find all the bark-damaged trees almost worthless as timber."

43. The superintendent admitted the total want of conservancy, but stated that to clear the forests of supernumerary saplings, elephant creepers, &c., would require an expenditure which the Government would not sanction. It had even become a question with the Government, whether a forest establishment should be kept up at all, and the sums sanctioned for working the forests were altogether inadequate to work them in an efficient manner.

44. Under these circumstances, indeed under any circumstances, I would strongly advise the leasing of the forests to private parties for a long term of years, say 50. Under a lease of such length, men of capital would be found who would undertake the working and

and conservancy of these fine forests. It would be the interest of such men to remove injured trees, to destroy the creepers and thin the saplings, and a never-failing supply of good timber would thus be secured. Government could stipulate for a certain sum for every tree that was felled (to be ascertained from the books kept by the leaseholders, under severe penalties for frauds) and would bind the leaseholders, also under penalties, to fell no trees under certain given dimensions. By such an arrangement (which I have only rudely sketched) Government would be relieved from the charge of the forests, and derive a good revenue from them. The conservancy of the forests would also be secured, while under the present system, they are rapidly, I hesitate not to say it, going to ruin.

45. I am informed that there are very fine sesoo and saul forests on the other side of the Korealee, stretching from Birtapore to Toolseepore, but as I only saw a small portion of them, and the season was too far advanced to examine them thoroughly, I am not competent to speak of them. As far as conservancy is concerned, I have, however, been informed that they are in the same state as the saul forests I visited.

The Ferries of the Rivers of Oudh.

46. This is a subject on which I would respectfully call the very special attention of the Chief Commissioner. When high officials are travelling through the country their route is known, and every preparation is made to facilitate their crossing the rivers, but as I travelled alone, unknown and undetermined as to any particular track, I had a full opportunity of seeing the ferries under the ordinary arrangements. With full experience of those in the whole of the north of Oudh, I pronounce them to be execrable, unworthy of a civilized Government, that taxes the incomes and the lands of the people, and the very ferries themselves. At every ghat that I passed above Bryam Ghat on the Gogra, the Korealee and the Sardah, I found nothing but little canoes, three of which I was obliged to tie together (when I could procure them, for frequently ferries have no more than one, and others have to be brought from a distance) and bank them with planks, if procurable, if not with branches of trees and mud to fill up the interstices. In this way, with all the assistance of my servants (for there are seldom more than two ferrymen) and making my horses and bullocks swim the rivers, I generally lost a day at each ghat. I have seen hundreds of carts at Puchper Ghat, on the Sardah, which had been kept for many days waiting their turn to cross the river. The commerce of the country, small as it is, is much injured by the want of proper boats on the ferries; and the people are surely entitled to have good boats when they pay a sum for being ferried over, which is fixed by tariff.

47. Government leases the ferries to talookdars, who sub-lease them to poor men at considerable profit, but no stipulation is made for boats of a proper size being kept on the ferries. The leaseholder will go to no extra expense, and works with his canoe, or douga, as it is called, because he knows that passengers must cross, and must pay according to tariff. If carts arrive he allows the traders to get other dougas and fasten them together, and gives himself no trouble in the matter, as his toll must be paid according to tariff.

48. There is no ghat on these rivers to which large boats, such as those that form the bridge at Fyzabad, could not be conveyed; but if such were the case they could be built as easily as they are on the small rivers in Rohilkund. The boat builders on the river Deoha at Phillibeet would gladly take contracts to construct boats on the Sardah, the Korealee or the Gogra.

49. I believe it will only be necessary to call the attention of the officiating Chief Commissioner to the great inconvenience, and even loss, sustained by traders and travellers for want of proper boats on the ferries, to obtain the required reform. It is but reasonable that a portion of the funds derived from the ferries should be devoted to improve the mode of transit.

Cotton in Oudh.

50. Indigenous cotton is grown in Oudh, but on a very small scale, and generally mixed with other crops; the plant is therefore poor and stunted, and the yield of cotton very scanty. The people import cotton from Cawnpore, Calpee, and Futtehlghur to supply their wants, and make no attempt to cultivate it themselves on a large scale. I have not been able to discover any good reason for this neglect of the cultivation of a staple which they require, and which with a little attention could be produced in all parts of Oudh not subject to inundation during the rains. I was informed that the people had a prejudice against growing cotton, a religious superstition which deterred them from meddling with it; but all the evidence I have taken from officers in the districts prove this information to be erroneous. The true reasons appear to be, that they are not accustomed to grow it, that they are not acquainted with its cultivation; and they conclude that, as the little cotton they do grow is unproductive, it is not suited to their country. They do not know the conditions of soil and moisture under which cotton flourishes or perishes. Cotton requires a porous soil and must not be inundated with water. In Oudh there is a great deal of soil much mixed with clay, which is not suitable to cotton, and large tracts of land are subject to inundation where the cotton plant would languish and be unproductive. The people when they do grow cotton, make no distinction in their selection of soils, and hence the failure which has led to the conclusion

I. India.

that the country is not suitable to cotton. If Oudh ever becomes a cotton-producing and cotton-exporting country, it will be entirely through European capital, skill, and enterprise. The talookdars of Oudh possess the first, but they are entirely wanting in the two latter qualities. With the exception of a few gentlemen in the Mahomdee district, who have received estates from Government for services performed during the mutiny, and a few European grantees in the same district, I have not met in the whole of the rest of the province one European merchant or planter. But if there were many Europeans settled in the province, I do not think that in the present unsettled state of affairs in America they would run the risk of growing cotton on a large scale, and importing expensive machinery to clean and pack it. Gentlemen in England may tell us that Indian cotton is as good as American, and that it only requires an alteration in the machinery of Lancashire to adapt itself to its staple to make it as valuable for manufacturing purposes; they may tell us that when once that alteration is made Indian cotton will take the place of American, and will not be driven out of the market even when the American trade is resumed, but we do not believe these statements. The stubborn fact that we supplied England largely with cotton, and our supplies were rejected when American cotton came into competition, is not disproved, nor is it forgotten. And when a prospect of war with America loomed on the horizon, remote as it really was, the immediate fall in the price of Indian cotton gave a salutary warning of the fate that awaited Indian speculators if that war had been realized. Not then until there is a settlement of that question, and a steady demand for Indian cotton, at remunerative prices, springs up, is there any prospect of Europeans engaging in its cultivation in this part of India, but it will be proper to inquire what this province could do in the event of such demand arising.

51. I believe that the province of Oudh is capable of producing large quantities of excellent cotton, if the conditions of soil and situation are attended to. The great tracts of waste land on the right bank of the Sardah, extending through the Mahomdee district, possess the very soil required for cotton—a porous sandy soil, of great depth, and not subject to inundation. If irrigation can be obtained, the crops on these lands would be very productive. With regard to irrigation, I wish to say a few words. Mr. Landon stated to the Colonization Committee in 1858 that irrigation, as applied to cotton in India, had completely failed. Such a statement is at variance with the experience of every person in India who has paid any attention to the subject. Out of hundreds of experiments, I will quote one. It was made by Mr. Stanbrough, a gentleman of the medical profession, who was employed by the mercantile firm of Messrs. Livingstone, Withers & Co. of Calcutta, to purchase cotton for transmission to the east coast by the Godavery. It is recorded in a letter dated the 29th March 1859, and addressed to Mr. Plowden, the Commissioner of Nagpore:—

“The best cotton in Nagpore is grown upon, and in the neighbourhood of the River Wurdah, and of the Wuma, a rivulet running southward into the Wurdah; and the quality deteriorates the further the cultivation withdraws from the influence of the moist soil adjacent to the river bank. I myself tried an experiment upon a field of little more than eight acres, the ploughing and sowing being conducted in the ordinary local fashion; but as soon as the flower made its appearance I commenced watering every evening, obtaining the water from the river by coolies. Although my field was surrounded by others sowed with the same seed, my plants were nearly as big as currant bushes, produced at least three times the usual quantity of cotton, and the staple was equally fine, but considerably longer; in fact, nearly as long as the best Sea-island cotton, which fetches the highest price in the English market. The natives always look with great anxiety for the rain when the flower-buds begin to open. Should the Madras Irrigation Company therefore extend its operations to the cotton fields of Berar and Nagpore, a very wonderful change and improvement in both the quantity and quality of Indian cotton may be expected.”

52. Should a canal from the Sardah be carried through these waste lands, as I have suggested, vast crops of excellent cotton could be produced.

53. In the district of Seetapore, I gathered in a garden belonging to Colonel Clarke, a few pods of cotton from trees grown from New Orleans seed, and sent them to the Agricultural and Horticultural Society of Calcutta. The following is the report of the gentlemen of the cotton committee of that society on the sample, dated 30th November 1861.

Report by Mr. Stewart Douglas.

“This cotton is of good colour, good staple, and strong fibre; it is impossible, however, to give a very correct valuation of cotton in the seed. This is, however, a useful kind of cotton; and if clean, would be acceptable in the Liverpool market.”

Report by Mr. Wm. Haworth.

“The colour, staple, and strength of fibre are all good, and the sample compares well in every respect with middling Orleans. Its ordinary sale rate at Liverpool would be about $6\frac{1}{2}$ d. to $6\frac{3}{4}$ d., but the October advices make it then worth 10 d. per lb.”

Report

Report by Mr. C. A. Cantor.

I.
India.

"Has not been cleaned, is full of seed, the staple is very good, and the colour is good."

54. Wherever the conditions of soil and situation have not been attended to, the experiments in cotton growing have failed, and the climate and country are duly reported as being unfitted for cotton cultivation.

55. At Nawabgunje I visited the station garden, and was informed by Captain Chamier, that New Orleans seed sown by him had germinated, the plant had grown about a foot and a half high, and then began to languish and die. Climate and soil were clearly not suited for cotton cultivation. I examined the garden, and found it situated on a plateau of kunkur formation, on which the whole station of Nawabgunje is built. The kunkur bed is covered with soil of no great depth, and when the long tap root of the cotton tree reached the kunkur, the plant of course languished and died.

56. I have spoken of the miserable appearance of the native cotton plant, sown as it is in defiance of every condition requisite to the prosperity of the plant; but I have seen magnificent native cotton trees that accidentally have escaped the mischievous influences that usually injure the plant. In the Roy Bareilly district, I examined a field of native cotton mixed up with urhur, a large species of pulse, the trees of which were as high as currant bushes, completely overshadowing the puny cotton plants that struggled for existence beneath them. On the edge of that field, however, a row of cotton trees were growing apart from the urhur trees; and running parallel to the edge of the field, there was a little watercourse through which water was conveyed to irrigate wheat fields lying beyond it. The water in its passage percolated through the soil and irrigated the row of cotton trees, which under these conditions were more than six feet high. The result was so remarkable that I brought one of these trees to the Officiating Chief Commissioner, for his inspection.

57. It is unnecessary to pursue this subject further, as it must be evident from what has been said, that the climate and soil of Oudh are favourable to the cultivation of cotton. Intelligence and skilled labour, however, are essential requisites on the part of the cultivator to ensure success.

Flax Growing in Oudh.

58. In travelling through the country lying between the Gogra and the Raptee, I was surprised to see the enormous extent to which linseed is grown. At the time I passed through the district the plant was in flower, and so great was the extent of this cultivation, that the fields covered with the innumerable blue flowers of the plant, appeared in the distance like sheets of blue water or lakes. As the mirage of the desert often deceives the traveller, so was I deceived by the appearance of the flax-fields in the distance; and it was not until I approached nearer that I could distinguish which was flax and which was water. I have already said that this part of Oudh is not suitable for cotton, but it is admirably adapted to the growth of flax. The soil is generally a rich dark loam, a good deal mixed with clay, and great portion of it inundated during the rains, which imparts richness and strength to it. The natives cultivate the plant in the rudest manner, and after it is sown take no more trouble with it. They only sow it for the seed, but the extent to which it is cultivated proves that it must be a productive, and of course, a paying crop. I am of opinion that no part of India presents a finer field for the cultivation of flax than the districts lying between the Gogra and the Raptee. At the same time I never lose an opportunity of ascertaining the opinion of others on subjects so important, and I have great satisfaction in transcribing the opinions of a gentleman who is well acquainted with Oudh, and has travelled in other parts of India said to be most favourable to flax cultivation.

G. Campbell, Esq., Judicial Commissioner, Oudh

Ques. "What is your opinion of flax cultivation in Oudh?"—*Ans.* I have seen a very large amount of flax cultivation in the districts of Oudh, adjoining the Terai, and have hence formed a strong opinion that if the indigenous plant succeeds, the improved plant is likely to succeed. At present, so far as I know, it is only grown for the seed and not for manufacturing flax.

"You have travelled much through India, and have resided in the Cis-Sutlege territories since they were annexed to British territory, and have been also in the Punjaub; can you say if you have seen the linseed or flax plant grown to the same extent as in the Gonda and Baraith districts?"—Nowhere have I ever seen the same extent of cultivation. A good deal is grown in Azimghur, but not nearly to the same extent.

"To what do you attribute this extensive cultivation?"—To the fact that it pays, which I attribute to the soil and climate being favourable.

"Flax has been called an exhausting crop, requiring manure, which the people of this country do not use to any extent; for a continuation of linseed cultivation on a large scale, then, there must be some fertilising causes. Are you aware of any in the Gonda and Baraith districts?"—The lower lands, which are very extensive, are inundated during the rains, by the Raptee and the Gogra, which are both particularly fertilising streams, and as linseed is a

I.
India.

cold-weather crop, much of it is grown on lands that have been inundated. With regard to manure, great quantities could be obtained which are now lost. These districts are cattle grazing districts, and abundance of manure could be brought into the field.

"Do you think a flax-growing and manufacturing establishment would succeed in the districts above mentioned?—I am not sufficiently acquainted with the prices and demands for flax to give a confident opinion on the general subject, but I feel assured there is no more promising field for the growth of the plant; and if it succeeds in any part of India, it ought to succeed in the districts above mentioned. I look a good deal to the climate not being too dry, as a stalk-growing cultivation requires greater moisture than a seed-growing cultivation.

"As there are no European planters or settlers in the districts mentioned, would it not be desirable that the Government should take the initiative in establishing a flax plantation and factory to bring the capabilities of the province to the notice of capitalists in England?—I am very strongly of that opinion, because the manufacture of flax being entirely unknown to the people of this country, there is not the slightest chance of its being taken-up unless Government shows the example."

Dr. Bonavia, Assistant Civil Surgeon, in charge of the Agricultural Garden of Lucknow.

Ques. "HAVE you tried the cultivation of flax in your garden?—*Ans.* Yes, but on a very small scale. I planted some English flax seed, sent by the Calcutta Society, and it germinated and grew very well, assisted of course by irrigation. I also planted some native seed, which also grew very well.

"To what height did the English flax grow?—About three feet high.

"Did you try any experiments, to ascertain the strength and quality of its fibre?—No; the quantity was too small, and I only sowed it to obtain seed.

"Do you think the climate and soil of Oudh suitable for the growth of flax?—I have not much experience beyond Lucknow, but my opinion is, that wherever the soil is clayey, and irrigation easy, there will be no difficulty in growing flax."

59. Supported by such opinions, I very strongly recommend the establishment of an experimental garden and factory for the growth and manufacture of flax in the Gonda or Baraich districts by Government. The soundness of the principle of private enterprise is universally recognised, but there are cases where a departure from it is a very wise policy. I have already said there are few Europeans in Oudh, and none in the districts mentioned. If the Government, therefore, does not take the initiative, the cultivation and manufacture of flax will be deferred to an indefinite time. His Honour the Lieutenant Governor of the North West Provinces, recognizing the soundness of private enterprise, has not hesitated to recommend to Government the establishment of an experimental garden of 50 acres in the Saharunpore District, for the purpose of growing flax, and has authorized Dr. Jameson, while in England, to send out a ton of the best flax-seed, and such necessary implements for the manufacture of flax as cannot be obtained in this country. His Excellency the Viceroy and Governor General in Council, with that liberality which has distinguished his administration in India, has, under date 25th March 1861, sanctioned the recommendations and orders of his Honour the Lieutenant Governor. With such a precedent before me, I do not hesitate to recommend to his Excellency the present Viceroy and Governor General of India, the establishment of a similar experimental garden and factory in Oudh. There is great difficulty in obtaining the services of a European qualified to superintend such a factory. Europeans, generally, in this country have little or no knowledge of flax manufacture, while a European skilled in its manufacture, selected in England, is unacquainted with the language and is scarcely competent to conduct the experiment. I have heard, however, of a European at Allahabad, Mr. Carbery, who combines the qualifications of a knowledge of the cultivation and manufacture of flax, acquired in Belgium, and a knowledge of the language acquired in this country. He is unknown to me, but I have heard of his qualifications, and in respect of character he is well spoken of.

Contracts, System of Registration in Oudh.

60. In travelling through Oudh, I observed in many towns a sign-post with an inscription in English and the native character, "———, notary public." On inquiry, I found that the individual named was a registrar of contracts; and in explanation of the system, I cannot do better than give the evidence of Mr. C. Lindsay, the Deputy Commissioner of the Hurdul District, to whom I first addressed my inquiries.

C. Lindsay, Esq., Deputy Commissioner, Hurdul District; dated Camp Raegaon, 23 November 1861.

Ques. "How long have you been in this district?—*Ans.* About two years.

"I wish to have some information regarding your registration of deeds and contracts. When was this system introduced?—About two years ago.

"Will you be good enough to explain the system?—There are 13 notary publics in this district, that is, one to each large pergunnah, and their business is to register all contracts and

and deed, such as deeds of mortgage, obligations to pay money, betrothals, wills, authority to adopt, deeds of sale or gift, contracts generally, leases, and conveyance for transfer of real property, &c. Their business is also to register verbal agreements and puttahs (leases) of land. These registrars have also been constituted vendors of stamps.

"What fees do the people pay to the registrars?—There is a regular tariff, according to amount of contract, which has been fixed at such low rates, that the people avail themselves largely of the privilege. To show the increasing popularity of the system, I may mention that in 1860, in this district, 955 deeds were registered to 76 in 1859. This year the increase has been greater, but here (in camp) I have not the means of giving the exact number.

"Has this system of registration curtailed, to any extent, litigation in this district?—I am of opinion that it has, as the suits on registered bonds have been comparatively few.

"Do you think the system a preventive to fraud?—Certainly, I think it a great preventive to fraud. Before a registrar can register a deed he must verify it and the parties by witnesses. It is generally found that the registrar, living himself in the market town of the pergunnah, knows personally most of the parties that appear before him.

"Of what class generally are the registrars?—The Hindoo portion are taken for the most part from the families of the old canongoes of the king's time. The Mahomedan portion are selected for their intelligence and respectability.

"What security have you for their probity in the registration of deeds?—A bond of security is taken from them, and the necessity of taking the attestation of witnesses on the deed registered, renders fraud almost impracticable.

"Are these registries compulsory?—At present they are not, but the point has been referred to Government for decision."

61. This system of registering contracts, &c., seems to me so good, and to work so well, that it might be advantageously introduced into other parts of India. With regard to contracts for labour, such a system of registration would be very useful if a contract law, making fraudulent breaches of contract punishable, be obtained. The evidence of Mr. Gilmore shows how he has been treated by labourers to whom he gave advances. They ran away after receiving the money, and he took no steps to capture them, because if he had obtained possession of their persons, he could not have procured such a punishment as would have deterred them and others from acting in a similar manner. Planters and landowners, supported by an unreflecting press, have been urging Government to pass a law to prohibit the exodus of coolies to Australia and to French colonies, but this is a demand so directly destructive of the rights of the labourers as British subjects, that it cannot be complied with by Government. They have, however, a right to ask for a law that will compel labourers to fulfil their contracts, and this is what is really wanted. If this law is obtained, the registration of contracts, as practised in Oudh, will make the system perfect.

Settlement of Europeans in Oudh.

62. I have already stated that there are no Europeans settled in Oudh, except in one district, that of Mahomdee. As I consider it very important that it should be known how European settlers are viewed by the authorities, and what their position is with regard to the people, I shall extract the evidence on these points given to me by Colonel Clarke, Commissioner of the Khyrabad division.

Colonel Clarke, Commissioner, Khyrabad Division.

Dated Seetapore, 26 October 1861.

Ques. "Are there any European merchants, planters, or zemindars in your division?—*Ans.* Yes, there are 15 or 16 grantees of waste lands in the Mahomdee district, who are engaged in general cultivation, but no merchants or traders.

"Do they carry on their operations on friendly terms with the natives, or have misunderstandings or litigation of any kind occurred between them?—They are on the best of terms with the natives, and no complaints against the conduct or bearing of any one of these gentlemen have ever come into my court. In addition to the 15 or 16 grantees, there are four European gentlemen who have received estates for good service to Government, who are residents. They are all popular with the natives.

"Do you consider it desirable that Europeans should settle in the country?—Very much so. In fact, without it I see very little hope for India. I think it would be very desirable that the British Government should do what is practised in Russia, namely by granting lands and certain small privileges to their servants, to induce them to settle in the country."

Poppy Cultivation in Oudh.

63. I made very particular inquiries regarding the opium cultivation which has been recently introduced into this province. I questioned the zemindars and ryots in many places, but, far from hearing any complaint, they, one and all, spoke of it most favourably, and said it was very profitable to them. The plant, indeed, grows most luxuriantly, and when I passed through the Fyzabad division, it was in full flower. I have travelled through the plains of Malwa

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India,

and Assam, when the poppy was in flower, and I have seen nothing superior, or perhaps equal, to the poppy fields of Oudh. The system in force is most equitable, and I have heard of a circular from the officiating Chief Commissioner, prohibiting all coercion, and directing opium agents, in the event of ryots not fulfilling their contracts, to apply to the courts like other merchants and dealers. Under this system the trade flourishes and the cultivators are contented.

Salt.

64. Considerations of revenue have induced the Government to prohibit the manufacture of salt in Oudh, and the people are supplied with salt from the North West Provinces, where a duty is levied upon it. They are, however, permitted to manufacture small quantities for domestic use, under certain restrictions, and this system does not appear to work well. It is argued, that if a permission to manufacture salt exist at all, it will be impossible for the Government to check its manufacture on a large scale, and this apprehension has had the effect of deranging the general trade by occasionally checking the importation, and causing the prices to rise. The license, then, to manufacture salt for domestic purposes, although granted with a benevolent purpose, becomes in practice a hardship to the people at large. I think the prohibition should be total, as the import trade will then become well regulated. Nor will such prohibition be a hardship to the mass of the people, for those that avail themselves of the present permission are only a few communities in the vicinity of the saliferous soils. Again it is scarcely just that, when the bulk of the community is compelled to purchase a taxed article, a few should be exempted on account of the mere accident of locality. The people may complain, and do complain, that they are not allowed to manufacture as much salt as they can, but this is obviously a complaint that, under our present system of revenue, cannot be listened to. If, however, considerations of revenue require the prohibition at all, it should, in my opinion, be total.

The Navigation of the Gogra.

65. Under the heading, "Rivers of Oudh," paragraph 17, I stated my belief that the Gogra would become the channel through which the wants of the people, not only of Oudh, but of the North West Provinces, would be supplied. I stated at the same time that this was probably no new idea; and among the many papers given to me for perusal by the officiating Chief Commissioner, I have found an official letter from the late Lieutenant Governor of the North West Provinces to the officiating Chief Commissioner, Oudh, that fully corroborates this statement. The letter appears to me so valuable, as bearing upon the important question of the navigation of the Gogra, that, although it, no doubt, is to be found in the records of the Supreme Government, I will re-produce it here.

(No. 1025 A. of 1856.)

From *C. B. Thornhill*, Esq., Officiating Secretary to the Government, North West Provinces, to *C. C. Jackson*, Esq., Officiating Chief Commissioner of Oudh, Lucknow, dated Head-quarters, Nynee Tal, 25 July 1856.

Sir,

THE Lieutenant Governor having had under consideration the annual report of the operations for the improvement of the navigable stream of the Ganges from Revelgunge to Allahabad for the past season 1855-56, perceives but little encouragement, from the degree of success hitherto attained, to hope for any steady and sufficient deepening of the channel, such as would keep permanently open the communication for steamboats as far as Allahabad, during the months when the river is at its summer level.

2. Under these circumstances it becomes of urgent importance to seek for some more complete remedy for the very serious inconvenience now suffered by the periodical closing of so considerable a portion of the main route for the water transit of all the heavier articles of general commerce to and from the upper provinces.

3. I am therefore desired to forward for your perusal, the annexed copies of paragraphs 14 to 17 inclusive, with extract of paragraph 18 of a letter, No. 33, of the 5th instant, from the Commissioner of the Benares Division on the subject; and to observe that, although the Lieutenant Governor is reluctant to discontinue any aid now given to the Ganges navigation, of however limited and partial a degree of benefit it may be productive, so long as it is the only mercantile river thoroughfare, it appears to him that the route by the River Gogra, with a landing-point at Fyzabad, presents obviously much greater advantages.

4. The Lieutenant Governor would beg to be allowed, on the above grounds, to recommend to your early attention the consideration of measures by which the navigable channel of the Gogra may be substituted for that of the Ganges, a good metalled road being also constructed from Fyzabad to Lucknow; and requests that he may be informed if there is any

any probability of this route being opened by the commencement of operations upon it at any definite date.

5. Meantime, pending the decision of this question, the Lieutenant Governor will not think it right to diminish the establishment on the Ganges channel as it at present exists.

6. A copy of this letter, and of the extract referred to from Mr. Tucker's report will be forwarded to the Foreign Department for submission to the Governor General in Council.

I have, &c.

C. B. Thornhill,
Officiating Secretary to Government,
North Western Provinces.

EXTRACT paragraphs 14 to 17, and portion of paragraph 18, of a Letter from the Commissioner of the Benares Division to the Officiating Secretary to the Government of the North Western Provinces, dated 5 July 1856, No. 33.

14. But now that Oudh is annexed, why should Government adhere to the winding and shallow Ganges, when the straight, and comparatively deep Gogra is before them, and all that is wanted is a good road from Fyzabad to Lucknow, to shorten the distance from Chupra to Cawnpore by 100 miles. General Sleeman's answer to me, that the Oudh establishments are "all greatly in arrears, and the treasury is empty. Out of a revenue of 110 lacs, not 60 have been, or can be, collected this year, while the ordinary annual expenditure is 101 lacs. I cannot, therefore, at present urge the Government of Oudh to sanction any outlay upon new roads," does not now apply. Oudh is now in British hands. It must be well administered to justify its annexation; and a first-class road must be made from Fyzabad to Lucknow. Indeed the Nazim Aghaee Saheb, at my instigation, backed by the wishes of General Outram, has been busy laying out and commencing this road, upon which General Outram informed me some progress had been made at the ends visible by Europeans, though he could not tell me how much had been done in the centre section.

15. In a couple of years Ghazeepoor, Benares, Mirzapoor, and Allahabad, will have the rail, and be independent of the Ganges. But Azmigurh, Goruckpoor, and North Eastern Oudh, will be quite shut out from its benefits, and will suffer in the same way that Rohilcond is now doing. They are entitled to share the benefits of steam with the more centrally situated districts; and must do so, if their prosperity is to keep pace with the rest of the country.

16. The means are simple, and are detailed in my letter of the 14th October 1848, printed in No. 4 of the Selections of the Government of India. I was not then believed; and in spite of repeated reminders to the Commissioner and Resident, nothing was done. But when, at last, Lieutenant C. A. Gascoin, of the artillery, was deputed in the dry season of 1852 to survey the Gogra, his report fully bore out all I had advanced. He wrote, "at the end of the month of April 1852 there were about 2½ feet of water in some parts of the channels of the Ganges, when in the River Gogra I found 4 feet;" and concludes: "on the whole, I offer my opinion that the river, for the distance laid down in the plans (*i. e.* to Ram Ghat, one mile above Fyzabad), and with the exceptions stated in the accompanying report, is navigable for all vessels drawing not more than 3½ feet of water, even at the driest periods of the year."

17. Instead, then, of pottering on the Ganges, which is little the better of all the money expended upon it, and where the larger steamers are constantly sticking, it appears to me that a first-rate road, with a simple line of rails laid upon one of the putrees, ought at once, without a day's delay, to be laid out from Fyzabad to Lucknow. A good road exists from Lucknow to Cawnpore; but one of the putrees should be widened, and rails laid upon it. There are thousands of pounds worth of carriages and locomotives, I understand, lying idle in Calcutta. With one spark of Dr. O'Shaughnessy's energy and determination (and the Chief Commissioner of Oudh wants neither quality), a very tolerable railway for low speed (and great speed is not wanted at first) might be in action by the dry season of 1858; Fyzabad would be the steam port of the North Western Provinces above Cawnpore; and the line of traffic would be diverted from the Ganges to the Gogra, to the infinite benefit of the northern districts, and of commerce in general.

18. I would, therefore, earnestly entreat his Honour to bring this important subject prominently to the notice of the Governor General, and of the Chief Commissioner of Oudh. It will be no slight benefit to the Imperial Government to have the passage of troops and stores between Dinapore and Cawnpore shortened by 100 miles; and Oudh would be greatly enriched by becoming the channel of traffic between the east and west.

I.
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I.
India.*On Health in the Malarious Jungles.*

66. Under the new era that has dawned for India, and the more liberal policy of Her Majesty's Government, inaugurated by the great statesman who has just left our shores, numbers of settlers may be expected from England to occupy the waste lands of India. To these I desire to say a few words on the subject of preserving health in the jungles. It is now 35 years since I left England to reside in tropical countries, and I have seen a great deal of suffering, and suffered myself severely in my youth, from a want of knowledge of the laws classed by that great writer, Combe, as "the physical, the organic, and the moral laws." To all settlers I would recommend the study of "Combe on the Constitution of Man." His views on the subject of phrenology need not be adopted, but his facts and arguments on the laws mentioned are irrefragable. The settler who studies these laws, and attends to them, will rarely suffer from disease, even in the climates termed the worst in the world. In the tropical jungles the first requisite for health is a habitation erected on as high a point as can be obtained; and if made of wood or bamboo, it should be built upon piles, with the first-floor at least six feet from the ground; if of brick, or stone, it should be built on arches. In Cachar, where I resided one year, the tea planters all suffered from fevers or rheumatism, caused, as I believe, entirely by their houses being built on the ground. The evidence of Mr. Gilmore, previously given, shows he suffered from fever, and his house was built upon the ground; while Mr. Carnegie enjoyed good health, his house being raised about five feet from the ground. The jungle should be well cleared away from the neighbourhood of the house; and if the laws indicated are attended to, the settler will generally enjoy as good health as in England. There is a class, unfortunately a large class, whose mistaken piety—a piety that must command respect—leads them to attribute disease to the ordainments of Providence. It is regarded by them as a visitation for the punishment of sins; and instead of taking the necessary precautions to ward off disease, they appeal to the Deity. I was at Hobart Town, Tasmania, in 1854, and witnessed the spectacle of a whole people crowding to the churches to pray for the removal of a plague, in the shape of a malignant typhoid fever, which had broken out among them, and was destroying them by hundreds. The cause of the plague (so they termed it) was unmistakeable. A small river runs through the centre of the town, and owing to a long protracted drought it had dried up. This river was the great sewer of the city, which carried off the filth the inhabitants were in the habit of throwing into it. The drought caused no cessation of the habit of throwing in the refuse of their houses, and this became accumulated to such an extent that the atmosphere around was poisoned, and the typhoid fever broke out. But the people regarded it as a visitation of Providence. To those who entertain such opinions, and believe that it is impious, and a questioning of the power of Providence to attribute such calamities to other causes than his will, I would say, it is no limitation of the power of Providence to say that he governs this world by general and immutable laws, nor can his justice be impugned for reserving the punishment of crimes and sins for a future state of being. In fact this is the teaching of our religion. The benevolent Creator has endowed us with reason to discover and comprehend his laws. To attribute our fevers and other diseases to his direct visitation, when they are to be traced solely to the infraction of his laws, is a wilful and culpable rejection of the gift of reason which he has bestowed upon us. It leads to sure and protracted suffering, and to question the justice of that Providence which afflicts one portion of humanity and spares another.

General Appearance and Condition of Oudh.

67. Twelve years ago, Major General Sleeman made the tour of Oudh, and his journey is recorded in two published volumes. The picture he has portrayed of the imbecility of the king, the corruption of the Court, the lawlessness and constant warfare of the barons (as he terms the talookdars), the brigandage, plunder, assassinations, torture, widow burning, and child murders, has no parallel in history. A king plunged in the lowest and vilest dissipation, the mere tool of strumpets, singers, and fiddlers; ministers and courtiers preying upon the revenues, selling justice, and condoning robberies, murders, brigandage, and forcible seizure of property for money; talookdars fighting among themselves, and frequently against the king's troops; the people plundered by the troops and talookdars, flying to the jungles and cultivating their crops often by stealth, and at night; towns in ruins, no mosques, mausoleums, temples, seraees, colleges, courts of justice, or even prisons, to be seen in any of the towns or villages; such is the description of Oudh, its king and its people, by General Sleeman in 1850. When I travelled through it I found the country in the profoundest repose, the turbulent barons converted into quiet and busy zemindars, the people contented, and prosecuting their labours in peace and security, and the soil covered with the finest crops. There were not, however, wanting marks that still bore testimony to the lawlessness and insecurity of the past. There was still an entire absence of good houses, mosques, mausoleums, temples and colleges; although schools, courts of justice and prisons, are now to be found in all the larger towns of Oudh. The towns and villages more in the interior, still present the blind walls and mud roofs, which were made as a protection against sudden attack or fire, although these are rapidly disappearing, especially in the neighbourhood of the capital. The whole of these traces of the past history of Oudh will soon be effaced, and will be replaced by good houses and large bazaars. I noticed also the little traffic and commerce

commerce in the country, the absence of the middle class of bankers, merchants, traders and buncahs, who are to be found in such large numbers in the older provinces under British rule. With peace and security, this class will no doubt spring up. I learned that the great landholders were sincerely rejoiced at the change of Governments, and that they appreciate highly the title deeds of their property derived from the British Government. The measure of confiscation, by destroying all previous titles, has made the talookdars holders of their properties from the British Crown alone. The condition of their tenures is loyalty to the British Government, and to render service when called upon. This is a recognition of the rule (or raj, as the natives term it), of the British Government in the most perfect form, and it is matter of regret that the whole of India was not similarly confiscated, so that every landholder should now hold his title in the same manner as the talookdars of Oude. General Sleeman travelled with an escort of two companies of soldiers, but I travelled alone; and in the whole of Oudh, from the Ganges to the frontiers of Nepal, I was treated with respect, and received every assistance, from the nobleman to the peasant. From being our most active enemies, these people have become good friends, and this great change, with the peace and prosperity of the country, are undoubtedly due to the sound and generous policy of his Excellency the late Viceroy and Governor General of India.

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I have, &c.
P. Saunders, Sen.

Enclosure 2, in No. 62.

From *E. C. Bayley*, Esq., Secretary to the Government of India, to *E. H. Lushington*, Esq., Secretary to the Government of Bengal (No. 2271), dated 5 May 1862.

MR. PATERSON SAUNDERS, senior, having fulfilled the objects of his deputation to the North Western Provinces in May 1861, of which the Government of Bengal were informed by endorsement No. 1236, dated the 11th idem, I am now directed by the Governor General in Council to inquire, with reference to the letter noted in the margin, whether the Lieutenant Governor desires the proposal of last year to be carried into effect, and if so, what parts of Bengal his Honour deems it advisable that Mr. Saunders should visit.

From Secretary to
Government of
Bengal, No. 373A,
dated the 26th of
March 1861.

Enclosure 3, in No. 62.

From *J. D. Gordon*, Esq., Junior Secretary to the Government of Bengal, to *E. C. Bayley*, Esq., Secretary to the Government of India (No. 286), dated 17 May 1862.

I AM directed to acknowledge the receipt of your letter (No. 2271), dated 5th instant, requesting to be informed whether the Lieutenant Governor desires that Mr. Paterson Saunders, sen., should visit any of the districts in Bengal where cotton is likely to be produced in considerable quantities, now that the object of his deputation to the North Western Provinces has been fulfilled.

2. In reply, I am directed to state that the Lieutenant Governor, having ascertained that Mr. Saunders will proceed to England by the steamer of the 23d instant, does not propose to nominate any one else to carry on, in any part of the Lower Provinces, the investigations which that gentleman has so successfully undertaken in the North Western Provinces and Oude.

3. The Lieutenant Governor would leave the question open, so that, in case Mr. Saunders should return to India, he might visit the districts of the Chota Nagpore Division and the valley of the Mahanuddee, and ultimately the districts on the eastern frontier and in Assam, the resources of which, as regards the production of cotton, are comparatively little known.

I.
India.

— No. 63. —

REVENUE DESPATCH to the Government of India, No. 19, dated
15 October 1862.

Para. 1. I HAVE perused with much interest the report on the Province of Oude by Mr. P. Saunders, cotton commissioner, which was forwarded with your letter of the 2d June last (No. 11).

2. This report embraces many subjects relating to the capabilities of the province, and the development of its resources, not immediately connected with the special object of Mr. Saunders' mission, and I observe with pleasure that the results of his inquiries have been generally satisfactory.

3. The particular points on which he has offered suggestions will of course be considered in the departments to which they respectively belong.

— No. 64. —

PUBLIC WORKS DEPARTMENT.—No. 65 of 1862.

COMMUNICATIONS.—ROADS.

To the Right Honourable Sir *Charles Wood*, Bart., G. C. B., Secretary of State for India.

Sir, Fort William, 29 September 1862.

WITH our letter No. 79, of 19th November 1861, we forwarded correspondence regarding a scheme of imperial roads for the North Western Provinces. The Government, North Western Provinces, had been previously informed that we approved of the selection of the lines, but it represented that it had received no authority to remove these roads from the charge of the Road and Ferry Fund Committees, and that no relief had been given to the local funds. It was not thought expedient, however, to take over at once the whole of these roads, of which much remained unmetalled, but that this should be done by degrees as they were completed as metalled roads, or as a definite prospect could be seen of such a consummation.*

* Vide Public Works Department Pro., 17 January 1862, Nos. 3 and 4.

2. The Lieutenant Governor has lately proposed to hand over finally a large proportion of these roads to be provided for from the imperial budget, the conditions mentioned having been complied with, and we have acceded to his proposals with one exception, that of the road from Etawah to Mynpoorie and Kuraolee, which seems to be a mere cross road, not at present at least of imperial moment. The East India Railway, passing close to the town of Etawah, seems to provide all that can be claimed for that district.

3. The bulk of the roads thus taken over are already metalled and bridged, or have already been taken up for completion under special orders of the Government of India. The aggregate length of the lines in the North Western Provinces now acknowledged to be imperial will be (including the Grand Trunk Road) very nearly 2,000 miles. The approximate charge for maintenance may be, say 200 rupees a mile, or four lakhs annually in all. These roads, with the
railway,

railway, may be held to give the North Western Provinces a fair allowance of main lines of communication, at least for that part of the country between the Ganges and Jumna. Rohilkhund, however, is still in the background.

I.
India.
—

We have, &c.

Elgin and Kincardine.

R. Napier.

H. B. Harington.

W. Grey.

Documents to accompany.

Letter from Secretary to Government North Western Provinces, No. 1579 A, dated 1st May 1862, and enclosure.

Ditto, No. 2306 A, dated 7th June 1862, and enclosure.

To ditto, No. 2475, dated 30th June 1862.

From ditto, No. 3293 A, dated 7th August 1862.

To ditto, No. 3754, dated 26th September 1862.

Statement showing district mileage for roads and railway.

One map.

Enclosure 1, in No. 64.

No. 1579 A, dated 1st May 1862.

From Lieutenant Colonel *W. E. Morton*, Secretary to Government of North Western Provinces, in the Public Works Department, to Secretary to Government of India, Public Works Department.

WITH reference to Colonel Yule's letter, No. 152, dated 13th January last, and with special regard to the latter part of para. 6, I am to state, for the information of the Viceroy and Governor General in Council, that the Lieutenant Governor has issued orders as to the roads in the North Western Provinces which are to be classed as imperial, and to be maintained hereafter at the cost of the Government, the funds for maintenance being drawn on the Public Works Budget year by year. All these roads connect termini of importance, and are most beneficial to the traffic of the country.

2. A list of these roads is annexed, and if his Honour has misread the order quoted above, the Government of India will be enabled to withhold their confirmation of the transfer.

3. Commissioners have been advised to have the roads specified in the lists removed from the lists of roads under charge of the Road and Ferry Fund Committees in whose districts they lie, and informed that the roads so removed will be maintained at the cost of Government from and after the 1st May 1863. It will be the duty of Commissioners to include in their Budget Statements for 1863-64 such funds as may by estimate be required for repairs and maintenance of such roads as, although taken over by Government, may continue to be under the charge of the civil authorities.

LIST of ROADS in the North Western Provinces classed as Imperial Roads, and to be maintained hereafter at the Cost of the State, as sanctioned in Letter No. 152, dated 13 January 1862, from the Secretary to the Government of India, Public Works Department.

Division.	Termini of each Road.		Mileage.	By whom Work is to be executed.	REMARKS.
	From.	To.			
Meerut Division.	1. Hattrass - -	Muttra - -	23½ miles - -	By civil authorities -	Road metalled and bridged throughout.
	2. Boolundshuhur -	Anoopshuhur -	25 miles - -	ditto - - -	} Ditto - ditto.
	3. Allygurh -	Ditto - -	33 miles - -	ditto - - -	
Agra Division.	4. Muttra - -	Delhi - -	32 miles in the Muttra District.	ditto - - -	Government of India have given budget money to this road so far as it lies in the Delhi division; metalled and bridged throughout.
	5. Ditto - -	Boundary of the Bhurtpoor State.	14 miles - -	ditto - - -	This road assists very materially a lucrative branch of the Government revenue, viz., salt. The road is bridged and metalled.
	6. Agra - -	Muttra - -	36 miles - -	ditto, if the Executive Engineer, 5th Division, Grand Trunk Road, cannot undertake the charge.	The entire road is metalled and bridged.
	7. Ditto - -	Boundary of the Bhurtpoor State.	21½ miles - -	By civil authorities -	The road in the Agra district is metalled and bridged.
	8. Furruckabad -	Ghuttea Ghat on the Ganges.	3 miles - -	Executive Engineer, 4th Division Grand Trunk Road.	All traffic from the Doab to Rohilkund passes over this road to Ghuttea Ghat, by which it crosses into Rohilkund. It connects the Rohilkund Imperial Roads with the branches of the Grand Trunk Road, and the executive engineer of the division will be able to take charge of it.
	Southern part of Futtehgurh district.	Towards Mynpoorie and Etawah.	1 mile and 5½ furlongs.	ditto - - -	This road meets the Bewar and Futtehgurh line of road, which is under charge of the Public Works Department.
	9. Mynpoorie -	Etawah - -	32 miles - -	ditto, 5th Division Grand Trunk Road.	Metalled and bridged throughout.
	10. Ditto - -	Keraolee - -	11 miles - -	ditto - - -	This road joins the Grand Trunk Road, and is metalled throughout.
	11. Futtehgurh -	Bewar and Etawah	63 miles - -	By civil authorities -	This has already been accepted as an imperial line; it is bridged and partially metalled; the metalling of the remainder is in progress with funds provided by the Government of India.
Rohilkund Division.	12. Peeleebeet -	Hattrass via Bareilly and Budaon.	134 miles - -	ditto - - -	For the execution of the work from Hattrass to Kuchlaghat, the Government of India, acknowledging the great usefulness of the road, have contributed funds, amounting to 54,000 rupees, from the 1½ lakhs assigned, in addition to the budget grant to the North Western Provinces. The length is 56 miles. For the portion between Kuchlaghat and Soron, laying in the Boorb Gunga, 10,000 rupees have been reserved in the budget of 1862-63, and 15,000 rupees are also assigned from the 1 per cent. duty. It may be said therefore that the Government has already taken upon itself the construction of the road so far as it lies on the south of the Ganges, and seeing that the portion of the road lying in Rohilkund is metalled, except only about two or three miles, which must be liable to inundation, the conditions laid down in the letter No. 152, dated 1st January last, from Colonel Yule, may be regarded as fulfilled.
	13. Gurhmooktesur Ghat.	Moradabad - -	46 miles - -	ditto - - -	The sum of 54,000 rupees has been granted from imperial funds for the repairs of this road; and as it is in point of fact nothing less than a continuation of the road from Gurhmooktesur to Meerut, which is already under the charge of the Department Public Works, it has been taken over as an imperial line.
Allahabad Division.	14. Futtehpoor on Grand Trunk Road and East India Railway Station.	Banda - - -	50 miles - -	ditto - - -	Road metalled and bridged throughout, except at the Jumna, Chillatara Ghat, on the Banda side; this road (24 miles) has always been repaired at the cost of the State.
Benares Division.	15. Deoree Ghat on the Gogra.	Allahabad via Azimgurh and Jounpoor.	123 miles - -	ditto - - -	Metalled and bridged; 25,000 rupees recently granted by Government of India from the 1 per cent. duty.
	16. Azimgurh -	Benares.	58 miles - -	ditto - - -	The road is metalled and bridged throughout, and connects two important termini.

W. E. Morton, Lieutenant Colonel,
Secretary to Government of North Western Provinces, in the Public Works Department.

Enclosure 2, in No. 64.

I.
India.

No. 2306 A., dated 7 June 1862.

From Lieutenant Colonel *W. E. Morton*, Secretary to Government of North Western Provinces, in the Public Works Department, to Secretary to Government of India, Public Works Department.

I AM directed to forward, with the request that it may be laid before his Excellency the Viceroy in Council, a copy of a letter from the Commissioner of Allahabad, No. 40, dated 10th ultimo, with sketches in original, submitting proposals for metalling and bridging, as imperial lines, the undermentioned roads in Bundlekund, viz. :—

1st. The road from Banda to Kalinger, a section of the branch of the Great Deccan Road, which commences at Myhere, and passing through Kalinger and Banda communicates with the East Indian Railway at Futtehpoor, and continuing thence, *viâ* Dalamhow Ghât on the Ganges, connects Central India with Oudh.

2nd. The road from Banda to Rajapoor Ghât on the Jumna.

2. I am to request that this Government may be informed whether his Lordship in Council would be prepared to sanction the execution of these two projects from the funds of the State on the ground that they are of imperial importance, and will tend greatly to facilitate trade generally and the traffic in cotton particularly. In that case, the Commissioner would be desired to cause both to be carefully surveyed, the best lines selected, and plans to be prepared and submitted with estimates of cost for inclusion in the budget of 1863-64.

3. I am to observe that there can be no question as to the importance of the road from Banda to Kalinger. It is the medial section of the best, if not the most direct, line of communication between the Doab and Oudh, on the one side, and the Saugor and Nerbudda territories on the other. The Lieutenant Governor does not know but what, on the completion of the railway extension from Allahabad to Jubbulpoor, this road will not lose much of its importance as a line of military communication, but it must always continue to be valuable for heavy traffic in cotton and other raw materials, which cannot bear the cost of carriage by railway.

4. Similarly, it is certain that the road from Banda to Rajapoor on the Jumna is of great consequence to the cotton trade, and may be said to come within the category of roads to the construction or improvement of which the Government, in accordance with the principles of the Resolution of the Government of India, dated 28th May 1861, should contribute.

5. I am to request the return of the original sketches when no longer required.

No. 40, dated 10 May 1862.

From *C. B. Thornhill*, Esq., Commissioner of Allahabad Division, to Secretary to Government of North Western Provinces, in the Public Works Department.

DURING my tour in the recent cold season I endeavoured to obtain reliable information regarding the more important lines of road in Bundlekund, in the hope that, in the event of these roads being adopted by the Imperial Government from their commercial or general value, some data might be available for estimating their probable cost of construction.

2. I now beg to submit the following sketches and notes of (1) the line from Banda to Kalinger, (2) that from Banda to Rajapoor on the Jumna.

No. 1. From Banda to Kalinger, 36 miles.

This is a section of the branch of the Great Deccan Road, which commences at Myhere, and passing through Kalinger and Banda, communicates with the East Indian Railway at Futtehpoor, and continuing thence, *viâ* Dalamhow Ghât, on the Ganges, connects Central India with Roy Bareilly and the adjacent parts of the Oudh Provinces.

3. A glance at the rough sketch, which is drawn to a scale of four miles to the inch, will show that it is after leaving Kalinger towards Banda that all the serious obstacles are encountered within the first 10 miles. They are six in number—

The Tilheree Nuddee.
 „ Kowheye „
 „ Mundrae „

The Burrowrea Nuddee.
 „ Puhasee „
 „ Baghin „

The characteristics of all these are similar. The channels are deep, the slope of the bed considerable, and the rise of the floods rapid, but of short duration.

4. The accompanying sections show the cost of bridging these nuddees would be large. The section of the Mundrae is very similar to that of the Tilheree and the Burrowrea, and the waterway provided for the Tilheree would be sufficient for the others. I have not therefore given separate sections, the only variation being in the cost of the approaches

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India.

which would require to be raised considerably on the north side of the Burowrea. The area of the flood sections of the Tilheree, Mundrae, and Burowrea Nullahs, are, as far as I could ascertain, about 1,400 square feet in each case. I imagine therefore that 3 spans of fifty feet would be required for each of them. The bed of the river being not less than 18 feet below the road level, the opening of the arches could be kept above the flood line without involving any appreciable rise in the roadway.

5. The Kowheye passing under the village of Sountha could be spanned by a 25 feet arch, the banks being well defined and never topped by the flood.

6. The Puhasee has a flood sectional area of about 800 feet, and would probably require three 30 feet arches, besides an opening of about 15 feet in the ravine to the north of the Nuddee.

7. The Baghin is a very large river. I endeavoured to ascertain from the residents of the villages on its bank what was the greatest height of any flood in their recollection, but the statements were so various, that I am not certain that the limits I have assigned may not be surpassed by some unusual inundation; it however coincides with the result of Mr. Ferrier's survey at a point 30 miles lower down the river, and is probably not very far from the truth.

8. The area of the flood section at the place where the Kalingar Road crosses I estimate at rather more than 7,000 feet.

9. Mr. Ferrier's survey at the point where the Rajapoor and Banda Road passes the nullah, 30 miles lower down, gives an area of 11,500 feet.

10. Intermediately between these points the Baghin receives the drainage of a large hill basin, which sufficiently accounts for its increased volume.

11. It would be necessary, I apprehend, to provide at least 500 feet of water-way, and to give the springing of the arches an elevation of at least 30 feet above the bed of the main channel.

12. Besides these larger bridges, numerous small culverts would be required to pass the surface drainage.

13. After crossing the Baghin there are few works needed, the country is flat, the soil generally good, and the drainage channels neither numerous nor of any size.

14. As regards the possibility of metalling, there appears no reason why the granite, which is found within a short distance of the line throughout, should not be employed for macadamization, the cost of breaking up and consolidating would be heavier than the collecting and laying down kunkur, but the greater durability of the granite would render it unnecessary to employ more than a layer of a few inches in depth, and there would be little need of repairs for many years.

15. The road has been carefully aligned, and is as direct as the nature of the country will permit.

16. As it has not been practicable to obtain borings in the beds of the nullahs, from the presence of water within a short distance below the surface, no attempt has been made to estimate the cost of constructing the bridges; but as the sand of the nullahs is coarse and hills occur in the immediate vicinity, it is not improbable that good foundations will be obtained at a comparatively small depth. If this should prove to be the case, each arch of 50 feet might be estimated at 5,000 rupees.

17. On this assumption the—

	Rs.
Tilheree would cost	15,000
Kowheye	2,000
Mundrae	15,000
Burowrea	15,000
Puhasee	10,000
Baghin	50,000
25 culverts, at an average of 500 rupees each	12,500
Metalling 36 miles, at an average of 3,000 rupees per mile	1,08,000

TOTAL - - - Rs. 2,27,500

I have only given the above rough estimate with the view of affording some sort of idea of the probable cost of carrying out the work in whole or in part should the Government decide upon its construction.

18. The substitution of paved causeways for bridges would not be comparatively as economical as in many other hilly countries, because the depression of the bed of the stream below the general level of the country is so great that the precaution of the ascent and descent would involve considerable expenditure, which would be of annual recurrence, as all the portion within the reach of the floods would be liable to be carried away.]

No. 2. Road from Banda to Rajapoor Ghât on the Jumna, 52 miles.

19. This is a very important cotton exporting line. It passes through the black soil for about 30 miles after leaving Banda, and upon this portion I have recommended the local committee to test the efficacy of the sand metalling, which was recommended in the correspondence received under cover of your letter No. 58, dated 21st January 1862.

20. There are two serious obstacles upon this road, the Baghin at 33 miles, and the Pysunnee at 35 miles from Banda.

The

21. The Baghin, which was sufficiently formidable nearer its source where it crosses the Kalingar Road, has here assumed the dimensions of a river; the area of its flood section is about 11,500 square feet, and though its rise is only about 24 feet, its greatest width is 680 feet, and the cost of bridging it would probably not fall short of 75,000 rupees.

22. The Pysonnee though much smaller has a flood rise of 18.5 feet, and a sectional area of about 2,880. In both the slope of the bed and consequent rapidity of the current is considerable.

23. The remainder of the road requires only a few culverts; it is all carefully aligned, but the direction between Pahoree and Rajapoor might, Mr. Ferrier thinks, be improved by taking it to the south over some elevated ground where no drains would be required, instead of crossing as the present road does, the drainage from that high land.

Enclosure 3, in No. 64.

No. 2475, dated 30 June 1862.

From Lieutenant Colonel *R. Strachey*, R. E., Secretary to Government of India, Public Works Department, to Secretary to Government of North Western Provinces, in the Public Works Department.

I AM directed to acknowledge the receipt of your letters No. 1579 A, dated 1st May, and No. 2306 A, dated 7th instant, the former forwarding a list of the roads in the North Western Provinces which are to be classed as imperial, and the latter proposing to metal and bridge as imperial lines the undermentioned roads in Bundelkund:—

Road from Banda to Kalingar,
Ditto - - - to Rajapoor Ghât.

2. Under the circumstances explained in your No. 2306 A, the Governor General in Council sanctions the former of these roads being accepted as imperial. The engineering features will however have to be carefully looked to, to see if some of the rivers cannot be avoided, and the line improved in the hilly country. With regard to the other line, I am directed to observe, that there is a direct road to the railway at Futtehpoor which has already been taken over as imperial, and that this, with the communication that will be opened, *vid* Kalingar, with the Jubbulpoor railway, is all that the Government of India can be expected to do for the Banda district. The direct road from Banda towards Allahabad would doubtless be useful for district purposes, but if it is executed at all it must be from local funds.

3. I am also to request that you will furnish this office with a map to illustrate the propositions contained in your letter No. 1579 A, as there is difficulty in distinguishing the roads simply on the list forwarded with your letter. Meanwhile, the Government must not be considered pledged to maintain these roads as imperial, until further orders are issued respecting them.

No. 3291 A, dated 7 August 1862.

Extract from a letter from Lieutenant Colonel *W. E. Morton*, Secretary to Government of North Western Provinces, in the Public Works Department, to Commissioner of Agra.

Para. 1. I AM directed to communicate the following remarks and orders on your letter No. 570, dated the 10th ultimo, and enclosures, regarding the transfer of certain roads at Futtehghur from the Local Committee to the charge of the Department of Public Works.

3. The Sketch Map shows that the road from Furruckabad to Yakoot Gunje, distance five miles, is essentially a part of the road from Cawnpoor to the city of Furruckabad, and may fairly be regarded as imperial. It will therefore be added to the charge of the Executive Engineer, 4th Division Grand Trunk Road.

4. There has been a misconception in transferring the road from the southern part of Futtehghur towards Mynpoorie from the charge of the Local Committee to the Executive Engineer, 4th Division Grand Trunk Road, which would not have occurred had the Sketch Map been submitted in the first instance. This road, No. 5, is obviously no part of the imperial line; and the Executive Engineer, 4th Division Grand Trunk Road, will be desired to regard it as excluded from his charge.

Enclosure 4, in No. 64.

No. 3293 A, dated 7 August 1862.

Endorsed by North Western Provinces, in the Public Works Department.

ORDER.—Ordered, that the foregoing be sent to the Secretary to the Government of India, Public Works Department, in continuation of No. 1579 A, dated 1 May 1862.

I.
India.

Enclosure 5, in No. 64.

No. 3754, dated 26 September 1862.

From Lieutenant Colonel *R. Strachey*, R. E., Secretary to Government of India, Public Works Department, to Secretary to Government of North Western Provinces, in the Public Works Department.

From Secretary to Government, North Western Province, No. 1579 A, dated 1 May 1862. WITH reference to the correspondence noted in the margin, I am directed to inform you that the Governor General in Council accepts as imperial the roads mentioned in the list forwarded with letter No. 1579 A, dated 1st May last, with the exception of the road from Etawah to Mynpoorie and Kooralee, which appears to be a mere district cross road not at present, at least, of imperial moment. The East Indian Railway which passes close to Etawah must be looked on as a complete provision of a main line of traffic through that district.

To ditto, No. 2475, dated 30 June.

From ditto, No. 3044 A, dated 24 July.

From ditto, No. 3293 A, dated 7 August.

2. The aggregate length of the lines in the North Western Provinces, now acknowledged to be imperial, will be (including the Grand Trunk Road) very nearly 2,000 miles. The approximate charge may be, say 200 rupees a mile, or four lakhs annually in all. These roads with the railway may be held to give the North Western Provinces a fair allowance of main lines of communication at least for that part of the country between the Ganges and Jumna. Rohilkund, however, is still in the background.

Enclosure 6, in No. 64.

STATEMENT showing the District Mileage for Roads and Railways in the North Western Provinces.

Districts.	Mileage of Road.	Mileage of Rail.	Districts.	Mileage of Road.	Mileage of Rail.
Goruckpoor - - -	35	—	Agra - - -	110	40
Azimghur - - -	115	—	Muttra - - -	70	10
Ghazeepoor - - -	35	25	Alligurh - - -	135	45
Benares - - -	75	35	Boolundshuhur - - -	120	40
Mirzapoor - - -	70	50	Meerut - - -	120	15
Jounpoor - - -	55	—	Mcزuffernuggur - - -	40	—
Allahabad - - -	95	80	Saharunpoor - - -	85	—
Futtehpoor - - -	90	60	Dehra Doon - - -	35	—
Banda - - -	60	—	Moradabad - - -	70	—
Humeerpoor - - -	—	—	Bareilly - - -	85	—
Cawnpoor - - -	110	65	Budaon - - -	35	—
Futtehghur - - -	105	—	Shajehanpoor - - -	30	—
Etawah - - -	30	65			
Mynpoorie - - -	100	15			
Eytah - - -	50	—	TOTAL - - -	1,960	545

— No. 65. —

EXTRACT PUBLIC WORKS DESPATCH to India, dated 8 January (No. 1.) 1863.

No. 65, dated 29 Sept. 1862. Scheme of imperial roads for the North Western Provinces.

11. THE transfer here reported, to the charge of the Public Works Department of a number of roads constructed by the Road and Ferry Fund Committees, will, you inform me, raise the aggregate length of the lines in the North West Provinces, now acknowledged to be imperial, to very nearly 2,000 miles, the maintenance of which is expected to require from the State, an annual assignment of four lacs of rupees. That part of the country which lies between the Ganges and Jumna, is now considered to be fairly provided with main lines of communication, and Rohilkund appears to be the only part of the North West Provinces in which there is any great deficiency in that respect. The attention of the Lieutenant Governor will, no doubt, now be directed to that quarter, with the same beneficial effects as elsewhere.

C. Wood.



—No. 66.—

EXTRACT Bengal Revenue Consultations—February 1862.

From *R. N. Shore*, Esq., Officiating Commissioner of Cuttack, to the Secretary to the Government of Bengal, (No. 307 $\frac{1}{4}$, dated 30 December 1861).

MR. BOND, the Master Attendant of Balasore, proposes to try an experiment in growing Sea Island cotton, if he can obtain some twenty or thirty beegahs of suitable waste land, free of rent, for a short term of years (say five). Mr. Bond must, of course, make his own arrangements with the zemindars in whose estates the land may be situated; but I presume there would be no objection to his holding the land for such a purpose.

I.
India.
Experimental
growth of Sea
Island Cotton.

—No. 67.—

From *H. Bell*, Esq., Officiating Junior Secretary to the Government of Bengal, to the Officiating Commissioner of Cuttack, (No. 141 A, dated 12 February 1862).

I AM desired to acknowledge the receipt of your letter, No. 307 $\frac{1}{4}$, dated 30th December last, recommending that twenty or thirty beegahs of suitable waste land should be given, free of rent, for five years, to Mr. Bond, the Master Attendant of Balasore; that officer having applied for this land to grow Sea Island cotton, as an experiment.

2. In reply, I am to inform you, that the Lieutenant Governor is pleased to sanction Mr. Bond's request, on the understanding that he must not apply to the cultivation of his land any portion of the time and attention which ought to be devoted to his public duties.

—No. 68.—

EXTRACT Bengal Revenue Consultations, March 1862.

From *R. Abercrombie*, Esq., Officiating Commissioner of the Dacca Division, to the Junior Secretary to the Government of Bengal, (No. 61 A, dated 1 March 1862).

WITH reference to your letter, No. 1448, dated the 16th June 1860, I have the honour to report, for the information of the Honourable the Lieutenant Governor of Bengal, that the 11 barrels of New Orleans cotton seed were duly forwarded to the Collectors of Dacca, Sylhet, and Superintendent of Cachar, for gratuitous distribution among the cultivators of those districts. These officers have now reported the result of the trial to be a failure everywhere.

Failure of New
Orleans Cotton
seed.

—No. 69.—

EXTRACT Bengal Revenue Consultations, May 1862.

From *E. C. Bayley*, Esq., Secretary to the Government of India, Home Department, to *E. H. Lushington*, Esq., Secretary to the Government of Bengal, (No. 2271, dated 5 May 1862).

MR. PATERSON SAUNDERS, senior, having fulfilled the objects of his deputation to the North Western Provinces in May 1861, of which the Government of Bengal were informed by endorsement No. 1236, dated the 11th idem, I am now directed by the Governor General in Council to inquire, with reference to the letter* noted in the margin, whether the Lieutenant Governor desires the proposal of last year to be carried into effect, and if so, what parts of Bengal his Honour deems it advisable that Mr. Saunders should visit.

Proposed depu-
tation of Mr. P.
Saunders to the
Bengal Provinces.

* From Secretary
to the Government
of Bengal,
No. 373 A, dated
26 March 1861.

—No. 70.—

I.
India.

From *J. D. Gordon*, Esq., Junior, Secretary to the Government of Bengal, to the Secretary to the Government of India, Home Department, (No. 286, dated 17 May 1862).

I AM directed to acknowledge the receipt of your letter, No. 2271, dated the 5th instant, requesting to be informed whether the Lieutenant Governor desires that Mr. Paterson Saunders, senior, should visit any of the districts in Bengal where cotton is likely to be produced in considerable quantities, now that the object of his deputation to the North West Provinces has been fulfilled.

2. In reply, I am directed to state that the Lieutenant Governor, having ascertained that Mr. Saunders will proceed to England by the steamer of the 23d instant, does not propose to nominate any one else to carry on, in any part of the Lower Provinces, the investigations which that gentleman has so successfully undertaken in the North West Provinces and Oude.

3. The Lieutenant Governor would leave the question open, so that in case Mr. Saunders should return to India, he might visit the districts of the Chota Nagpore Division, and the valley of the Mahanuddee, and ultimately the districts on the Eastern Frontier and in Assam, the resources of which, as regards the production of cotton, are comparatively little known.

—No. 71.—

NORTH WESTERN PROVINCES.

INFORMATION regarding the CULTIVATION of COTTON.

From Secretary, Sudder Board of Revenue, to Secretary to Government, North Western Provinces, (No. 470) ; dated Allahabad, 24 June 1862.

Sir,

In reply to the orders of Government, in the General Department, dated the 30th September last, No. 2578 A., I am directed by the Sudder Board of Revenue to state, for the information of the Honourable the Lieutenant Governor, that the questions regarding the cotton crops in these provinces were circulated in November last, and the replies have reference to the crop then on the ground; that is, the crop sown in the end of June 1861, and gathered towards the close of that year.

2. An abstract of the replies is enclosed. Three of the reports are forwarded in original,* as containing information of interest.

3. In regard to the average yield per acre, a great variety of statement will be observed; the estimate ranging from six maunds of uncleaned cotton as low as two, and for cleaned cotton, from 1 maund 35 seers down to 30 seers, and even less. This is partly to be accounted for by the various yield of different soils rendering it difficult to strike an average, and partly by the fact that cotton, especially in the south-eastern parts, is often sown along with another crop (as Arhur, Til, &c.), and therefore what is represented as the out-turn of an acre, may be only part of the crop grown upon it. Perhaps the following estimates may be taken as near the truth,—viz., uncleaned cotton, from four to six maunds; cleaned cotton, from 1 $\frac{1}{2}$ to two maunds.

4. In cleaning the cotton, two-thirds of the material in weight is separated as seed, &c. The seed (benoula) is used for feeding cattle, and fetches from 13 annas to 1 rupee per maund.

5. The market prices for cleaned cotton vary from 9 and 10 rupees per mu nd in the western districts to 12 and 13 rupees in the eastern. In the following table, an average rate of 11 rupees a maund has been assumed, and an average rate of produce, ordinarily at 1 $\frac{1}{2}$ maund of cleaned cotton per acre.

6. The districts of Dehra, Kumaon, and Gurhwal are omitted, the cultivation being confined to a few hundred acres for local consumption. The Benares division is also omitted. The crop as a staple for export is unknown; it is only occasionally sown (mixed generally with other crops) for domestic use. The sole exception is in one tuppah of Mirzapore (Oproudh, between the river Beylun and the Rewah hills), where 3,000 acres grown with cotton are said to yield some 24 seers per acre. Cotton is not cultivated in Goruckpore.

* From Collector, Allygurh.
From Collector, Banda.
From Deputy Commissioner, Jaloun.

Division.	District.	Roughly Estimated Area under Cotton; Statute Acres.	Estimated Yield of Clean Cotton:— Maund of 80 lbs.	Value at Local Market Rate—Rupees.	REMARKS.
		<i>Acres.</i>	<i>Maunds.</i>	<i>Rs.</i>	
Meerut	Seharunpore	23,750	35,750	3,93,250	A portion exported to the Punjab, and a portion eastward.
	Moozuffernuggur	17,000	25,500	2,80,500	About three-fourths exported eastward.
	Meerut	36,000	54,000	5,94,000	From one-half to three-fifths exported eastward.
	Boolundshuhur	15,000	25,000	2,75,000	Two-thirds exported northward and eastward.
	Allygurh	1,65,000	2,00,000	22,00,000	The area is probably over-estimated; about 1,57,000 maunds are exported, chiefly eastward.
	TOTAL	2,56,750	3,40,250	37,42,750	
Rohilkhund	Bijnore	23,000	34,500	3,79,500	One-half exported eastward.
	Moradabad	27,500	42,000	4,62,000	One-half exported to Kumaon and eastward.
	Budaon	52,500	78,500	9,63,500	Three-fourths exported, chiefly eastward.
	Bareilly	30,000	50,000	5,50,000	All consumed within the district, which imports a considerable amount for further consumption.
	Shaljeahanpore	8,000	8,000	88,000	Insufficient for its own consumption.
	TOTAL	1,41,000	2,13,000	24,43,000	
Agra	Muttra	68,000	90,000	9,90,000	Collector estimates at only 80,000 maunds, of which about 63,000 are exported eastward.
	Agra	73,826	1,00,000	11,10,000	About three-fourths exported eastward.
	Etah	26,000	39,000	4,29,000	About three-fourths sent eastward.
	Mynpoorie	19,000	28,500	3,13,500	A considerable portion exported eastward.
	Etawah	47,000	70,000	7,70,000	Three-fourths exported eastward.
	Furruckabad	10,000	15,000	1,65,000	About half is exported north and east.
	TOTAL	2,43,826	3,42,500	37,77,500	
Allahabad	Cawnpore	63,000	90,000	1,00,000	About three-fourths exported into Oudh and eastward.
	Futtehpore	24,000	30,000	3,30,000	Two-thirds exported eastward.
	Banda	89,000	60,000	8,80,000	Estimate of yield low, because hardly ever sown alone. About seven-eighths exported eastward.
	Allahabad	27,000	27,000	2,97,000	About three-fourths are exported to Calcutta, Jounpore, Goruckpore, &c.
	TOTAL	2,03,000	2,07,000	16,07,000	
Jhansie	Lullutpore	2,000	-	-	Grown for home consumption. Yield estimated at only 10 seers the acre, probably because mixed with other crops.
	Jhansie	28,000	28,000	3,08,000	There is so extensive a carriage of cotton grown in independent states through Jhansie, that the Deputy Commissioner finds it difficult to estimate the proportion of his own crop, which follows the same course.
	Jaloun	40,000	35,000	3,85,000	The Deputy Commissioner has not estimated the area. The settlement tables of Calpee show 14 per cent. of cultivated area under cotton, and on this the present estimate is founded.
	Humeerpore	38,500	34,000	3,74,000	The Collector estimates the yield at only 31 seers per acre, probably because it is sown with other crops.
	TOTAL	1,08,500	97,000	10,67,000	
GRAND TOTAL		9,53,076	11,99,750	1,26,37,250	

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7. The subjoined table shows the proportion which the area under cotton bears to the whole cultivated area, excepting the Jhansie division, of which the cultivated area is not yet ascertainable with exactness :—

Division.	Cultivated Area by last Survey.	Area under Cotton in 1861-62.
	<i>Acres.</i>	<i>Acres.</i>
Meerut - - - - -	4,029,142	2,56,750
Rohilkhund - - - - -	4,132,002	1,41,000
Agra - - - - -	3,474,823	2,43,826
Allahabad - - - - -	3,128,620	2,03,000
TOTAL - - -	14,764,587	8,44,576

Thus out of $14\frac{1}{2}$ millions of acres under crop, about 8,50,000 are cultivated with cotton—that is, about $5\frac{1}{2}$ per cent.

8. The estimated aggregate out-turn of clean cotton (including the Jhansie division) is twelve hundred thousand maunds, equal to 96 millions of lbs., or 8,57,000 cwts. Of this, probably one quarter is consumed in the districts in which it is grown, one quarter or somewhat less is exported to the north and east for local consumption, and one-half is carried eastward towards Calcutta ; but what proportion is destined for eventual exportation by sea there is no means of finding out. Besides this, there is a constant stream of carts passing through Bundelkhund northwards to the Jumna, with cotton from the independent states in Bundelkhund, Gwalior, &c. The statistics of this trade could, if necessary, be checked at the ghâts on the Jumna.

9. A statement of the market rates for cotton at the chief marts in these provinces, from the beginning of 1859 to May 1862, compiled from the monthly prices current, is enclosed. It will be seen that the prices range higher in proportion as you go lower towards Calcutta. The universal tendency likewise is for the rate to rise till June, when, in the prospect of a good harvest, it suddenly falls, to rise again after the crop has been absorbed in the market.

10. It may also be gathered that the prices current are mainly ruled by the plentifulness or scarcity of the local harvest. The average rates in 1859 were beyond all comparison higher than they have been since, even with all the urgency of the European demands. Cotton fetched that year from 15 to 22 rupees a maund.

11. And herein lies the difficulty of persuading the people to extend their cotton sowings. Accustomed to great and constant fluctuation in the market rates, they have learned by immemorial experience not to regard the rate which prevails at the time of sowing as any index of what it will be when the harvest is gathered in. The home demand exercises but a vague and inappreciable influence upon the crops. It has long ceased to be felt directly by the people. It is lost in the far larger influence arising from the local yield being good or bad.

12. There was a time when it was otherwise. The traditions of the Company's investment still linger among the inhabitants of Calpee and Humeerpoor. In the former district * “ the purchases of Government amounted at one period to 40 lakhs a year, and of private individuals it is said to 18 lakhs ; since 1830 the former have been discontinued, and the latter have dwindled down to an annual expenditure of barely seven lakhs.”

13. What was thus done by the Honourable Company in its trading days must now be done by the merchants of Lancashire, and a permanent supply to any extent will then be secured. So long as this is not done, the fluctuations of price in Europe, however high they may temporarily raise the market rate, will produce little effect upon the breadth of land brought under the cotton crop.

* Mr. Muir's
Settlement Report,
para. 34, written
in 1842.

14. The effect of the dealings of the Commercial Residency in Bundelkhund are even now traceable there.* Agents, deputed from Mirzapore, still visit the district and make advances to the zemindars and cultivators at the time of sowing. In Banda,† the traders sometimes buy up the crop as it stands, and clean it. Elsewhere, the cultivators ordinarily sell or barter their cotton to the village bunniah, who disposes of it in the nearest market; or they part with it to brokers, as in Allygurh. The village price, by buying direct from the cultivator, is stated to be six or eight annas a maund, (from one shilling to one shilling and sixpence per cwt.) lower than the local market price. The system of advances to cultivators, or the bespeaking of a crop, seems (excepting in Bundelkhund) to be little known.

15. How different would have been the state of things from what we now find them, if agents from English houses had been posted in the best cotton tracts in these provinces;‡ if they had held direct transactions with the cultivators, or even with their brokers; and if thus a constant demand and steady price had been brought to bear upon the production of cotton. The influence of the European market, which is now hardly, if it all, perceptible in regulating the sowings, would then have told in the most direct and powerful manner.

16. The example of Calpee must also be followed in the location of cotton-screws at such agencies. Unless the bales are screwed on the spot, the carriage must continue to be slow and expensive. It is understood that unscrewed cotton cannot be transported at a profit by the railway. It is needless in this place to advert to the benefit that would accrue from the quality of the cotton, and its freedom from impurities, being checked by an agent on the spot.

17. Cotton in these parts is invariably sown towards the end of June or beginning of July, on the first setting in of the rains. If the commencement of the rains be deferred, the sowings are postponed and the crop suffers. If the delay be very great (as unfortunately does sometimes happen) the crop is lost. Any long suspension of rain between July and September also seriously injures its growth. Such contingencies would, of course, have to be borne in mind by English speculators in the establishment of agencies. The crop is gathered from the latter part of October to the beginning of January. The early pickings are the best. The plant is invariably an annual, but (in reference to the question put by Government) it is stated that, when allowed to continue in the ground for a second year, it still bears at the same period.

18. It occurs to the Board that valuable information regarding the Company's cotton investments in Bundelkhund might be obtained from the old records of the Honourable East India Company prior to 1830. The mode of procedure in effecting purchases, the extent to which advances were resorted to, and (a serious point) the degree in which famine or drought affected the investment of the year, might probably be copiously illustrated from those records.

I am, &c.

G. H. M. Batten, Secretary.

Enclosure 1, in No. 71.

ABSTRACT of Replies to Board's Circular, No. E. E., dated 11 November 1861, regarding the probable out-turn of the Cotton Crop.

Superintendent Dehra Dhoon; No. 412, dated 17 December 1861.—Cotton cultivation is scattered over the whole of the district; it is certainly not more than 200 acres in the whole of the Dhoon and Jounsar Bawur, and the exact quantity cannot be ascertained. The average

† There are some very pertinent remarks on this aspect of the case, in an article on "Cotton Culture in India," in the *Edinburgh Review* for April last:—"Now the cotton interests at large have had it in their power, as they still have it, to place themselves, in concert with these classes of practical agriculturists, to say what they want, and to obtain it at a fair market price, dependent upon quality. Suppose the case had been otherwise, suppose agencies to have been established in all cotton-producing districts, superintended by intelligent European agents," and so on, p. 497.

The advantages anticipated by the writer would certainly follow the adoption of the course he has indicated, and they can be secured by no other.

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average produce is five maunds "Kupas" per acre in the Dhoon, and two maunds per acre in Jounsar Bawur. The cotton cultivated is for the special consumption of the sower; and the district is supplied by importations from the plains. The climate and soil are unfavourable to its growth, and its cultivation is considered unremunerative.

Officiating Collector, Seharunpoor; Demi-Official, dated 7 December 1861.—23,761 acres are devoted to cotton cultivation. The average produce per acre is 2 maunds 28 seers; value at market rate Rs. 8. 8. per maund; and the estimated proximate value at this rate of the entire cotton is 5,45,309 rupees. It is spun into thread, and also used for quilted clothing for the cold weather, some of it being exported to the Punjab and down country, but to what amount is unknown. The usual time for sowing cotton is in June, after the first fall of rain, and the period for gathering commences from September to November. The crop is an annual one, and is never allowed to remain for a second or third year.

Cleaned cotton.
For uncleaned
cotton.

Collector of Moozuffernugger; No. 2, dated 25 January 1862.—About 17,000 acres are devoted to cotton cultivation, the total cultivated area of the district being about 6,25,000 acres. The average yield is about $2\frac{1}{2}$ maunds* per acre, the average rate being assumed to be Rs. 2. 8. per maund.† It is estimated that two-thirds go to waste in giving, and one-third called "Roodee" is mostly exported in various districts, chiefly Mirzapoor. The price of cleaned cotton is five seers per rupee. The crop is sown in June, and is picked in November or December; it is invariably annual.

Tehseel Meerut
" Haupper
" Barouta
" Ghazeeabad
" Sirdhana
" Mowanna

- 5,513	<i>Collector of Meerut; No. 1, dated 3 January 1862.</i> —The total amount of land
- 7,065	under cotton cultivation is 36,172 acres.‡ The average produce per acre is about
- 7,957	1 maund 20 seers, making the total out-turn 54,258 maunds; the market rate at
- 7,331	present is 4 seers 6 chittacks per rupee, but it may be assumed at 7 rupees per maund,
- 5,097	or $5\frac{1}{2}$ seers per rupee, which would show the crop of the district to be worth
- 3,209	3,79,806 rupees. About one-half or three-fifths of the cotton yield are exported to
TOTAL - 36,172	the eastward, immense quantities being sent to Mirzapoor. The seed generally

sown is in the last 10 days of June and first 10 days of July, and the gathering begins in the first week of November, when it is collected invariably almost once a week, and the whole gathered in January. The crop is an annual one, and the plant is never allowed to remain on the ground after it has been gathered.

Officiating Collector of Boolundshukur, No. 97, dated 21 December 1861.—About 15,000 acres of land are assigned to cotton cultivation. The average produce of "Roodee" (cleaned cotton) is 2 maunds per acre, of "Kupas" (cotton with seed in it), 6 maunds per acre; value at the market of the former is 10 rupees per maund, of the latter Rs. 2. 8.; estimated proximate value at this rate of the entire crop in the district is, cleaned cotton 3,00,000 rupees; kupas 2,25,000 rupees; of this about one-third is retained for home consumption, and two-thirds are exported to Chundowsee (Moradabad), Hatrass (Allygurh), and Mirzapore. The usual and best period for sowing is at the end of June and the beginning of July, after the first fall of rain, when it is gathered from the middle of October to the end of December. The crop is an annual one, and is by no means allowed to remain standing beyond the end of the year.

Collector of Allygurh, No. 5, dated 31 January 1862.—The total number of acres appropriated to cotton is 1,65,392; and the average produce per acre is 1 maund, 6 seers, 6 chittacks, the market rate of which is Rs. 10. 5. per maund. The estimated proximate value of the entire crop at the above rate is 19,63,046 rupees. The quantity exported to other districts, viz., to the markets of Mirzapoor, Cawnpoor, Furrackabad, Kassgunge, &c., is estimated at 1,56,573 maunds of the material, leaving 8,819 maunds for home consumption. The sowing commences in June or July, just as the rains set in, and the harvest gathered from October to end of December, the crop being an annual one always. The collector recommends that a supply of Macarthy's gins, of 3 L. value, say 10 for each of the cotton growing districts, be procured at the Government expense, and let out to zemindars or merchants who may be induced to try their efficiency.

Officiating Collector of Bignour, No. 378, dated 19 December 1861.—About 22,328 acres are devoted to cotton cultivation in the districts, the produce per acre at an average is three maunds of seed, and 1 maund 20 seers of cotton. The cotton sells at (9) nine rupees per maund, and the seed at 1 maund 8 seers per rupee, thereby giving a return of Rs. 13. 8 per acre on the cotton, and Rs. 2. 8. per acre on the seed, showing the total value of the whole cotton 3,01,428 rupees, seed 55,820, 35,74,248 rupees. The seed is nearly all consumed in the district. Of the cotton, about one-half is used in the district, and half exported, mostly to Dhanourah and Chundowsee, in the Moradabad district, from whence it finds its way to Futtehgurh, Cawnpoor, and Mirzapoor, through the hands of the large traders. The end of June or commencement of July is considered the best period for sowing cotton as the crop is usually gathered in October, and is an annual one always.

Officiating Collector of Moradabad, No. 537, dated 20 December 1861.—In the Khurreef season, in the month of Assar, is the cotton cultivated; it is collected in October and November, and is an annual crop.

Tehseeldarees.	Land devoted to Cotton cultivation in Acres.	Produce of Cotton per Acre.	Rate of Cotton.	Total Value of Cotton.	How disposed of.
		<i>Mds. S.</i>	<i>per Md. Rs. a.</i>	<i>Rs.</i>	
Moradabad - -	5,000	1 0	10 -	(a) 50,000	(a) About two-thirds is used by the local inhabitants, and one-third exported to Chundowsee.
Sumbhul - -	3,500	1 0	9 -	(b) 31,500	(b) Partly used by the local inhabitants, and a portion exported towards the east.
Billaree - -	5,000	2 10	10 -	(c) 1,25,000	(c) About 14,000 maunds are exported to Furruckabad and Mirzapoor annually, out of the local produce and imported supplies.
Amroha - -	5,000	1 13	8 -	(d) 53,000	(d) All used in the pergunnah.
Hussunpoor -	4,500	2 6	8 8	(e) 77,400	(e) All used within the district, except 1,000 maunds exported for traffic.
Thakoordwarah -	4,500	1 30	9 -	(f) 70,875	(f) About 3,000 maunds are exported to Bareilly and Kumaon; the rest is used within the district.
TOTAL - -	27,500	- -	- -	4,01,775	

Officiating Collector of Budaon, No. 1, dated 30 January 1862.—From 50 to 55,000 acres are devoted to cotton cultivation. Average produce per acre of uncleaned material about $4\frac{1}{2}$ maunds, that of cleaned cotton one-third, or about $1\frac{1}{2}$ maund. The market value of the latter article ranges from 8 to 12 rupees per maund, according to the supply and demand. The estimated proximate value of the out-turn of 55,000 acres of cotton, valued at eight rupees the maund, will give 6,60,000 rupees; at the higher rate of 12 rupees, 9,90,000 rupees; at the mean of those two prices, or 10 rupees, 8,25,000 rupees. About one-fourth of the season's crop is retained for local consumption and for transport to immediate neighbouring districts where the supply is less; the rest all finds its way down to Mirzapoor *via* Futtehgarh. The latter end of June or beginning of July, after the first fall of rain, is the time for growing, and the picking commences early in October. The crop is always an annual one.

Collector of Bareilly, No. 13, dated 11 January 1862.—About 30,000 acres are devoted to cotton cultivation, the average produce per acre being 7 maunds 32 seers with seeds, and $2\frac{1}{2}$ maunds without them; value 26 rupees at Rs. 10. 6. per maund, showing a total value of the entire cotton of the district to be 7,78,125 rupees. The cotton produced is not sufficient to provide for itself; supplies are received from other districts. The period for sowing cotton is July in every year, and it is gathered in November and December, the crop being usually an annual one.

Collector of Shahjehanpoor, No. 1, dated 21 January 1862.—Nearly 8,000 acres are assigned to cotton cultivation. The average produce per acre is about 22 seers; the market value is $3\frac{1}{2}$ seers per rupee, making the value at this rate of the entire crop to be 54,150 rupees. It is not sufficient to meet the consumption of the district. The period for sowing is June and July, when the harvest takes place from October to December; the crop being always an annual one.

Senior Assistant Commissioner of Kumaon, No. 7, dated 10 January 1862.—The cotton cultivation may be roughly estimated. Almorah Tehseel, 600; Kumaon, 30; and Bhabur, 100 acres. Total, 730 acres. About four maunds of uncleaned cotton are yielded by each acre, which will produce about one maund of cleaned cotton. It has scarcely any definable market value, the small quantity grown being almost entirely for home consumption. About three seers per rupee for cleaned cotton may be taken as a fair average, which would show the value of the entire crop about 9,700 rupees. From the Bhabur a very small quantity of cotton finds its way through bunnaths of Casheepoor, Juspoor, &c., to the

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weavers of the Rohilkund towns. It is sown at the commencement of the rains, and gathered from October to December; the crop is an annual one.

Senior Assistant Commissioner, Gurhwal, No. 202, dated 26 November 1861.—No cotton is grown in the district, the small quantity consumed being imported from the plains. Wool and hemp are used in lieu of it.

Officiating Collector of Muttra, No. 160, dated 11 December 1861.—During the present year (1861-62) 68,272 acres have been devoted to cotton cultivation. The average produce in the district is about 1 maund $7\frac{1}{4}$ seers per acre. The market rate of cleaned cotton may be assumed at 8 rupees per maund, although the present price (in consequence of the supposed large demand) is about Rs. 8. 8. per maund. The entire crop at this rate may be estimated at 80,645 maunds, which would assign a value of about 6,85,482 rupees, or at the average, 8 rupees per maund, 6,45,160 rupees. Of the usual crop, 62,953 maunds are exported beyond the confines of the district, and about 17,727 maunds retained for home consumption. In the villages, as a rule, the bunneeahs purchase cotton, and sell it either to larger dealers in the towns of Koosi, Shergurh, Muttra, Julleisur, and Souk, or send it to Agra or Hattrass, from whence the cotton is forwarded on to Ghazepoor and Mirzapoor. The period for sowing is invariably the commencement of the rainy season, in the month of June. Its gathering begins early in October to the end of December, though the tree continues bearing till the end of February. As the plant is annual, it is generally in succession to a rubbee crop. A large portion of the district is peculiarly well adapted for the cultivation of the plant, while the more valuable crops, such as sugar cane and indigo, cannot be grown on account of the brackish water, which materially assists in producing a fine cotton harvest. The collector is of opinion that advances from capitalists, with instruction in the method of cleaning cotton, would rapidly induce cultivators to devote a very large area to this crop.

Collector of Furruckabad, No. 126, dated 20 March 1862.—9,931 acres are devoted to cotton cultivation. The average produce per acre is 1 maund 19 seers 5 chittacks, the market price being 3 seers 15 chittacks for the rupee, or Rs. 14. 13. per produce of each acre. The estimated proximate value of the entire cotton crop is Rs. 1,49,675. 2. 5. A large quantity of the cotton is used in the district itself, some of it being exported to Oude, Shahjehanpore, and Cawnpoor. The whole produce of the district may be estimated at 14,734 maunds, of which perhaps 7,000 maunds are exported. The best season for sowing is in the month of June; the cotton is gathered in December and January, the crop being always an annual one.

Collector of Mynpoory, No. 22, dated 21 February 1862.—19,048 acres 2 roods 24 poles are devoted to the cotton growth. The average produce per acre of cleaned cotton is 64 seers, valued at 16 rupees, and the total estimate out-turn of the crop, at this rate, 2,74,768 rupees. It is usually exported to Cawnpoor, Shahgunge, Furruckabad, and Ghazepore, and is frequently sold in great quantities within the district, and bartered for grain, &c., by the cultivators. The period for sowing is from July to August, and the reaping from November to January every year, as the crop is an annual one.

Collector of Agra, No. 14, dated 26 March 1862.—About 73,826 acres are under cultivation; its estimated proximate value is 9,33,875 rupees. It is sold in the Agra, Penahut, and Ferozabad bazars, and sent to Oudh and Mirzapoor; the best period for sowing is from 14th May to 14th June, and for gathering from October to December. The crop is an annual one.

Officiating Collector of Etawah, No. 53, dated April 1862.—46,803 acres are devoted to cotton cultivation; the average produce per acre is 1 maund 35 seers, valued at the market rate Rs. 7. 8., and the estimated proximate value at this rate of the entire crop is Rs. 3,51,022. 8. Three-fourths of the total out-turn is usually exported from the district, the remainder being retained for home consumption, and sold in the district markets. The usual period for sowing the crop is in July. It is usually gathered in October and November, the crop being an annual one.

Deputy Collector of Etah, No. 50, dated 28 March 1862.—25,891 acres are under cotton cultivation. The average produce per acre is three rupees per maund, and the value of the entire cotton crop at this rate is 3,10,692 rupees. Out of 1,03,564 maunds produced, about one quarter is consumed in the district; the rest is sent to Furruckabad, Cawnpoor, and Mirzapoor, but the amount that goes to each varies and depends on the demand at these places. The best time for sowing is in the end of June or beginning of July, and in October and November is the crop gathered. It is an annual one.

Collector of Cawnpoor, No. 109, dated 13 March 1862.—63,000 acres are assigned to the cultivation of cotton; 1 maund 10 seers is the average produce per acre, at the average value of 13 rupees per maund, making the value of the entire crop of 78,750 maunds 10,23,750 rupees. About one-fourth of the crop is consumed in the district, and the remainder is exported to the marts of Shahgunge in Oude, and Mirzapoor, of which about one-third goes to the former, and two-thirds to the latter thus:—district consumption, 19,687 maunds; Shahgunge, 19,687 maunds; Mirzapoor, 39,376 maunds. The cotton is sown in the latter part of June and first half of July, and is gathered in December. It is an annual crop.

Officiating Collector of Futtehpore, No. 28, dated 27 January 1862.—24,700 acres are devoted to the cotton growth, and the average produce per acre is 26 seers 11 chittacks. Its value at market rate is Rs. 12. 6. 7., showing the estimated proximate value of entire crop to be 2,04,785 rupees. About one-third is consumed in the district, and two-thirds exported to Mirzapoor,

Mirzapoor, &c., in the east. The season for sowing is that of Assar, or July; that for collecting from October to January. The crop is an annual one.

Collector of Danda, No. 1295, dated 27 November 1861.—Cotton cultivation extends over 89,022 acres. The yield per acre varies considerably in amount, and the want of a fixed standard of weight throws increased difficulties in the way of forming a satisfactory estimate, but probably 25 seers per acre will be a fair estimate. The rate also changes from year to year in different parts of the district, for in obtaining a maund of clean cotton the charges are Rs. 12. 8. to Rs. 13 as a fair market price, which may be taken under ordinary circumstances. The estimated value of the entire crop at this rate would be 7,23,307 rupees. Of this total out-turn about seven-eighths is exported, and the rest remains for district consumption. The principal cotton marts in the district are—Banaa itself; Googowlee, in pergunnah Pylanee; Gookhea and Bissenda, in pergunnah Seonda; Kallinger and Orun, pergunnah Budousa; and Rajapoor in pergunnah Cheeboo. But as a mart for cotton, Banda has of late years greatly declined, and been superseded by Rajapoor, through which place probably three-fourths of it exported passes. The sowing takes place in the month of Assar or July, commonly after the first fall of rain. The ground is manured if the ryot can afford it, and ploughed only once or twice, when it is weeded (not watered) while the crop is springing up, during August and September and beginning of October; the gathering takes place after this to the end of December, and the crop is always an annual one, fresh seed being invariably sown. Cotton cultivation in the different pergunnahs is as follows:—

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NAME OF PERGUNNAH.	Total Cultivated Area in Acres.	Cotton Cultivation in Acres.	Per-centage of Cotton Cultivation on Cultivated Area.
Banda - - - - -	1,44,303	8,759	6.07
Pylanee - - - - -	1,46,083	9,730	6.6
Ougassee - - - - -	1,35,468	8,298	6.1
Seonda - - - - -	1,08,712	5,684	5.2
Dursenda - - - - -	1,24,260	14,779	1.2 nearly.
Cheeboo - - - - -	97,011	9,947	1.02
Tirohan - - - - -	78,878	17,297	2.2 nearly.
Budousa - - - - -	1,20,837	14,528	1.2
TOTAL - - - - -	9,55,552	89,022	9.3

Collector of Allahabad, No. 20, dated 11 January 1862.—About 27,000 acres are devoted to the cultivation of cotton:—

Trans-Jumna - - - - -	22,900
Doab - - - - -	4,000
Trans-Ganges - - - - -	100
	27,000

The average produce of each acre is nearly 2 maunds 6 seers, and its market rate about 12 rupees, thus making the estimated proximate value of the entire crop to be almost 3,24,000 rupees. A small portion of the cotton yield is retained for home consumption, and the rest exported as follows:—

Calcutta - - - - -	75 per cent.
Jounpoor - - - - -	10 "
Goruckpoor - - - - -	5 "
Ghazeepoor - - - - -	5 "
Oudh - - - - -	5 "

The period for sowing is July or the commencement of the rains, when it is gathered from the middle of October to the end of November, except that "Radhea," another description sown at the same time with "dhal" ("Urhur") is not reaped till the June following. Although this cotton is little in quantity, its quality is superior. The crop is an annual one, and never allowed to remain standing for a second or third year.

Collector of Goruckpoor, No. 27, dated 19 November 1861.—No cotton is grown in the district.

Collector of Azimghur, No. 529, dated 20 November 1861.—There is no regular cotton cultivation in the district. A ryot may now and then rear a few plants for his own use, but there is no such thing as a field or any trading connected therewith carried on.

Collector of Jounpoor, No. 31, dated 23 December 1861.—The district is not a cotton-growing one, an acre of land scarcely being devoted to its cultivation, except that it is sown with "Urhur," or round the edges of fields, and of an inferior quality, called "Munnoa." From 2½ to 10 seers per acre is all that is procured. It sells at 6 annas per seer in the bazaar, or 15 rupees per maund. It is all consumed in the district, and mostly made up into cloth for the cultivators by either village or itinerant weavers. The crop is sown in June,

I.
India.

in the commencement of the rains, and allowed to stand for about 11 months. It is gathered as it ripens. The produce is an annual one; and the great mart for cotton in the district is Shahgunge, which is supplied from Kalpee and other places, chiefly Mirzapoor, from whence it passes on to Azinghur and Goruckpoor.

Collector of Mirzapoor, No. 62, dated 13 February 1862.—2,848 acres are devoted to the cotton growth; the average produce per acre is 24 seers, and the total produce may be roughly estimated at 2,000 maunds. The rate in the market varies from 14 rupees to 16 per maund; therefore, at an average of 15 rupees, the value of cotton fit for exportation would be 3,000 rupees. It is sown in the beginning of July, and reaped in December, being an annual crop always.

Collector of Benares, No. 18, dated 13 January 1862.—No cotton crop is grown in the district.

Officiating Collector of Ghazeepoor, No. 595, dated 21 December 1861.—About 1,500 acres are cultivated with cotton; the average produce per acre is near 10 seers, but not sold in the market; if so, the price probably would be 13 rupees the maund, and the proximate value of entire crop about 4,500 rupees. The cotton is usually applied by the cultivators to their own requirements, but at times exchanged for tobacco, &c. The period for sowing is that of Assar, i. e., from 15th June to 15th July, when the crop is gathered between the 15th April and 15th June, being an annual one.

Deputy Commissioner of Jaloun, No. 21 A, dated 21 November 1861.—The Deputy Commissioner forwards a copy of a report sent to the Manchester Association, to the effect that cotton to a large extent is cultivated in the district. The plant grown in Bundelcund, south of the Betwah river, is considered very superior. About the towns of Koonch and Jaloun cotton of the best quality is obtained; as is ascertainable, nearly 6,000 acres are devoted to the cotton growth. The amount of produce may be estimated (when the rains are plentiful), at 70,000 maunds, and the average produce per acre as follow:—

Seed	10 lbs.
Produce, cotton, raw	320 lbs.
Ditto, spun	80 lbs.

Rubar next in richness to Koonch and Jaloun, yields per acre,

Cotton, raw	240 lbs.
Ditto, spun	60 lbs.

Purwah, another good description of sandy soil, requires irrigation, when it produces abundantly. Yields:—

Cotton, raw	160 lbs.
Ditto spun	40 lbs.

The heat in the district is very intense from 1st April to 15th October; the rainy season sets in at the end of June (when the plant is sown), and continues to the 1st of October. The cotton growth would be greatly extended if European agency, European energy, and European capital were brought into the market. About 20 per cent. is the probable consumption of the natives, and the rest available for export. It is bought up generally by agents from the large native firms at Mirzapoor, who depute men to make advances to the cultivators at the sowing time, when in January and February the cotton is got and taken to Calpee, and from thence shipped by boats to the above place. The price in the gathering season for cotton (clean) is 10 to 12 rupees the maund, and at the beginning of November, before the new crop is produced, it runs up to 15 and 18 rupees for 80 lbs.

Deputy Commissioner of Jhansie, No. 439, dated 15 March 1862.—27,215 acres are devoted to cotton growth. The produce is from 1 maund to 1½ maunds per acre, and sells at Rs. 10. 8 per maund. The value of the crop of the district is therefore about 2,69,419 rupees. The cotton is consumed in the district itself. The time for sowing is the end of June and beginning of July, and that for gathering the end of October until December. The crop is always an annual one.

Deputy Commissioner, Lullutpoor, No. 82, dated 22 March 1862.—About 2,000 acres are devoted to cotton cultivation. The average produce per acre is about 1 maund of uncleaned and 10 seers of cleaned cotton. The cotton produced is used in the district itself. The best time for sowing it is in the early part of the rainy season, that for gathering during the months of October, November, and December. The crop is an annual one.

Collector of Humeerpoor, No. 1001, dated 20 December 1861.—38,400 acres are devoted to cotton cultivation. The average produce per acre is 30½ seers; value of which at market rate is 11½ Balashace rupees the maund, which is nearly 9 rupees, and the estimated proximate value of entire crop 3,45,600 rupees. About one-third is disposed of in making clothing, &c., and the remainder exported to Mirzapoor, Shahgunge, via Banda or Calpee. The sowing of the crop is usually in Assar, in the month of July, and the gathering from the end of October to the close of the year, the crop being an annual one.

I am, &c.

G. H. M. Batten, Secretary.

Enclosure 2, in No. 71.

From Collector of Allypore to Secretary Sudder Board of Revenue, North Western Provinces, Allahabad (No. 5); dated Camp Vinser, 31 January 1862.

Sir,

As requested in your Circular Order, No. E. E., dated the 11th of November 1861, I have the honour to append the information called for respecting the cotton crop of this season in this district, and, for convenience of reference, I have embodied it in a tabular form.

2. The total area cultivated with cotton is set down at 1,65,392 acres, the average rate of produce per acre 1 maund 6 seers 6 chittacks, and the average selling rate during the past month at Rs. 10. 5. per maund, derived from the existing rate of each tehseelee.

3. The estimated proximate value at the above rate of the entire cotton crop is 19,63,046 rupees. Of this, however, 1,56,573 maunds are given as the estimated amount exported to other districts, valuing 16,14,659 rupees, and leaving only 8,819 maunds, or about a little more than 5 per cent. of the whole produce, for home consumption.

4. The figures shown must be taken merely as a rough approximation, the cotton merchants and brokers of the principal marts in the district supplying the tehseeldars with such information as they possess regarding the probable out-turn and amount likely to be exported.

5. It will be seen that nearly 95 per cent. of the entire supply proceeds eastward, and mainly to the markets of Mirzapoor, Cawnpore, Furruckabad, and Kassilunge.

6. The cotton sowing commences in the months of June and July, early or late, according to the time the rains set in, and the harvest is gathered accordingly from October to the end of December, on the cob bursting, and thereby showing the cotton to be ready for picking.

7. The crop of this part of the country is an annual one, no produce resulting on the plant being allowed to remain a second year. With the kind known as "narma," the plant, I am told, realises something the second year; but "narma" is not sown in this district, the soil, I imagine, being unsuited to it.

8. In addition to the above information, which has been called for by the Board, I beg to offer a few more remarks, which may be of use, touching generally on the cotton cultivation as pursued in this district, and showing the state of the present season's crop, compared with those of the past two years.

9. There is only one sort of cotton plant in this district, known as "Bunn kupas." Its quality is declared by native brokers to be better, from being whiter and cleaner, than the produce of the other districts in the Meerut division, realising 8 annas per maund more.

10. The American variety is neither grown nor known in the district; no foreign seed is introduced, but the indigenous seed is re-sown. With this seed the people are satisfied, but in it we have full evidence of the poorness of the fibre produced; and in the degenerating effect of repeatedly using the same seed on the same soil, we see the real cause of the least value attached to Indian cotton, compared with other cottons in use in England, as demonstrated in the photographs circulated by the Manchester Cotton Supply Association for exhibition to cotton-growers in this country.

11. Doubts have been entertained by some natives of the advantage derivable from the cultivation of the American cotton; the merchant looks to the amount of profit to be gained by it. The American kind is thought to be lighter in weight than the country-grown cotton, and the amount produced to be about the same or less in both; hence an apprehension of less profits arising from the lighter quality. But this fear is unfounded. There is a general ignorance on the merits and capabilities of the American cotton. If the native capitalists could be only convinced by practice that the American quality, if *only equally* productive with the country-grown, would fetch higher prices, there is little doubt of their being induced to adopt it.

12. In a good year the highest out-turn is stated to be nearly four maunds per acre on good ground, and an average crop of about three-and-a-half maunds per acre; hence it will be seen that the crop of the present season has been far short of an average one. This has been caused, I am told, by the excessive rain that fell last year, the moisture not admitting the soil to be properly cleared of grass and weeds, whose consequent exuberance checked the growth of the cotton plant, and affected materially the yield of cotton.

13. The sale of cotton in this district is conducted chiefly through native brokers; the system of advances to the cultivator, as pursued with indigo, is resorted to but little.

14. Without irrigation from wells or canals, the plant is not produced, and preparing and manuring the land is necessary to promote healthiness. When cotton is purchased from the cultivator direct, it may be had six or eight annas per maund cheaper than in the market.

15. This district is singularly fortunate in the channels it possesses for the export of cotton, having two roads connecting Coel, its central town, with the Ganges, one of which

I.
India.

is metalled throughout, and the other for nearly half its extent; two metalled roads communicating with Muttra and Agra and the Jumna river, and another unmetalled, the Grand Trunk Road intersecting it east and west, and the Ganges Canal running north and south, with its two branches striking off at Nanoun, on the Trunk-road, towards Cawnpore and Etawah.

16. The cost of carriage to Ramghât on the Ganges, 26 miles from Coel, was in 1860 two annas per maund; to Furruckabad, by the Trunk-road, six annas; to Cawnpore, eight annas; and to Mirzapoor, 14 annas.

17. At the beginning of the past year (1861), the carriage was cheaper, being the same to Ramghât, but two annas less to both Furruckabad and Cawnpore, and three annas less to Mirzapoor. The difference in the costs of the past two years is ascribable to the fuller development of commerce, and the call for carriage ceasing for military purposes, as compared with former years, since the disturbances of 1857.

18. The hope of increased profits, founded on the knowledge of the cotton supply in Europe being cut off by the war in America, and stimulated doubtless by the promulgation last year of the State Paper informing native capitalists and the public of the present state of the cotton trade, has been the means of extending the cultivation of cotton considerably in excess of past years.

19. The cultivation in 1859 is stated to have been 1,83,000 pukka beegahs, more or less equal to 1,04,212 acres, and the cotton yield some 3,66,000 maunds; and in 1860 the cultivation amounted to 51,500 pukka beegahs, or 29,297 acres, yielding some 51,500 maunds of cotton.

20. The above comparative results demonstrate one fact, that little certainty can be placed on either the returns of the extent of cultivation, or the amount of produce reported; the average rate of yield per acre being recorded as two maunds in 1859, one maund in 1860, and one maund six seers six chittacks in 1861. Allowance, however, should be made for the extreme drought of 1860, which rendered futile, in many instances, the attempts to obtain a crop; whole fields might be seen bearing short stunted plants, with little or no cobs upon them. The previous year was more favourable in every respect; hence the larger rate of produce given; and, in 1861, the very heavy rains operated to diminish the supply on an extended area; hence the variable feature in the rate of produce per acre.

21. Connected with this subject is the disapprobation of European cotton-spinners of the cotton cleaned in this country. The "churka" is the only machine in use by natives for this purpose. For simplicity and cheapness, it would be no easy matter to find a substitute that would clean and separate the cotton from the seed better; and its general use from time immemorial would throw difficulties in the way of its substitution by any other machine, among a people so attached as the natives of India are to the *modus operandi* of their forefathers.

22. It would be very desirable to introduce into the country a simple gin on the M'Carthy principle, whose price, as shown by the Cotton Supply Association in their Secretary, Mr. Haywood's statement of December 1859, would easily come within the means of native capitalists;* but as one man will clean some 20 seers of cotton a day with the "churka," the gin, to supplant the "churka," should be of such size as will prove remunerative. The smaller size, priced at 1*l.* 10*s.* by the Cotton Supply Association, would be useless, its daily out-turn per man being set down at 15 or 24 lbs., according to the weight of the staple. The native would in preference, then, stand by his churka.

23. I would propose that a supply of M'Carthy's gins of 3*l.* value each, or more, say 10 for each of the cotton-growing districts, be procured at the expense of Government in the first instance, and let out on moderate terms for the first year or so to such zemindars or merchants who may be induced to try their efficacy. I feel confident they would all be sold within a short time, and Government be reimbursed its primary expenditure; for it should be borne in mind that that man would command the market whose goods would be the first ready for sale.

24. I trust I shall be pardoned for going at length into this subject, and exceeding the limits of the Sudder Board's inquiries. The extension of canal irrigation is engaging the attention of Government for the greater development of the resources of the country, and each year hereafter, with improved finances, we may expect to see more land thus brought under cultivation. The greater the encouragement afforded by Government, by introducing fresh seed and European machinery, the more safely may we reckon upon a larger amount of cotton produced; and this might be effected without in any way interfering with the principles of free-trade.

I have, &c.

J. H. Prinsep, Collector.

* Or some such gin as has been experimentally introduced by the Agri-Horticultural Society, Bengal.

STATEMENT of COTTON produced in Zillah Allygurh, during the year 1861-62.

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
	Name of Tahseel.	Lands cultivated with Cotton.	Average rate of Cotton produce per Acre.	Selling rate per Maund in December 1861.	What things are generally made by Cotton.	District to which it is generally exported.	How much exported to other Districts.	The best Months for sowing Cotton.	When Cotton is gathered from the Fields.
		<i>Acres.</i>	<i>Mds. srs.</i>	<i>Rs. a. p.</i>			<i>Maunds.</i>		
1	Coel - -	77,482	2 0	10 4 -	Native clothing, padding of quilts, quilts for cold weather, tents, floor-cloths, ropes, tape, listing for beds, &c.	Mirzapoor, Cawn-poor, Furruckabad.	1,16,223	In June or July, on the first fall of the periodical rains.	From the middle of October to end of December, or early in January, according to the lateness of the plant in ripening.
2	Hattrass -	14,750	1 10	9 12 -	- ditto - - -	Mirzapoor, &c., or Eastern Provinces.	15,000		
3	Eglass - -	10,000	1 0	10 - -	- ditto - - -	- ditto - - -	3,200		
4	Tuppul - -	5,800	0 25	10 - -	- ditto - - -	Coel - - -	1,000		
5	Attrowlee -	7,200	1 5	10 4 -	- ditto - - -	Khasgunge, Mirzapoor.	8,400		
6	Akrabad -	33,500	1 20	11 - -	- ditto - - -	Mirzapoor - -	2,500		
7	Secundra Rao	4,660	0 21	11 - -	- ditto - - -	- ditto - - -	2,250		
8	Khyr - -	12,000	1 10	10 4 -	- ditto - - -	Eastern Provinces	8,000		
	TOTAL - -	1,65,392	1 6	10 8 -			1,56,573		

Allygurh Collectorship,
31 January 1862.

J. H. Prinsep,
Collector.

Enclosure 2, in No. 71.

From the Collector of Banda, to Secretary to the Sudder Board of Revenue, North Western Provinces, Allahabad (No. 1295); dated Camp Lukkhunpoor, 27 November 1861.

SIR,—I have the honour to forward, for the perusal of the Board, a memorandum of answers, as regards the present year's cotton crop, to the questions contained in your circular, No. E. E., of the 11th instant. Observing from a newspaper that these questions had been circulated by the Punjab Government, I sent them to the different tahseeldars, and the information thus obtained has been carefully collated and embodied in the annexed memorandum by Mr. Carpenter, officiating deputy collector. Owing to the inquiry being novel, I will not vouch for the accuracy of the figures given for the cotton cultivation area, but I hope to be more sure of the results next year.

I have, &c.

H. W. Dashwood, Collector.

MEMORANDUM.

Question 1. How many acres, roughly calculated, are devoted to cotton cultivation in each district?—*Answer.* From recent inquiries, it appears that, in the present year, the total number of acres in the district cultivated with cotton is 89,022. The area of the district in acres is 19,20,302. At this rate, therefore, about $4\frac{1}{2}$ per cent. of the whole area of the district is cultivated with cotton. The extent of cultivated land in the district is 9,55,522; cotton, therefore, occupies rather more than nine per cent. of the whole cultivated land. But this percentage varies in different parts of the district, the pergunnahs named in the margin producing both absolutely more cotton than the remaining pergunnahs of the district and more relatively to their size. This will be seen clearly from the annexed statement. In Tirohan, cotton occupied nearly 22 per cent. of all the cultivated land in that pergunnah. The best cotton comes from the Beerghur and Kalinger portion of the Budousa pergunnah.

Dursenda.
Cheloo.
Tirohan.
Budousa.

2. What is the average produce per acre, its value at the market rate, and the estimated proximate value at this rate of the entire cotton crop of the district?—It is not easy to estimate the produce per acre. The produce varies considerably in amount in different parts of the district, and the want of a fixed standard of weight throws increased difficulties in

I.
India.

the way of forming a satisfactory estimate. In no two pergunnahs is the "seer" exactly equivalent, and in many cases the variation in standard is large. Another difficulty arises from the fact that in this district cotton is scarcely ever sown singly: "Urhur," "Oord," "Tillee," are almost invariably sown with it in small quantities. No doubt, if cotton were cultivated alone, the average produce would be higher than it is. As it is, taking the seer of full weight, probably the average produce per acre in ordinary years does not exceed 80 seers of "kupas," that being the term for the raw uncleaned cotton with the seed. The price of "kupas" in the villages varies from 9 to 14 seers per rupee, but this variation is due probably to the variation in the standard of weight than to any other cause. From 10 to 11 full-weight seers for the rupee may be taken as the average price of "kupas" over the whole district. This would give nearly 8 rupees as the average value of the produce of an acre, and rather more than 3 rupees as the value of the produce of a beegah. [This estimate must be near the mark, because from 3 to 4 rupees is the sum at which the people themselves estimate the value of the produce of the beegah of cotton.] Something, too, must be allowed for the produce of the "urhur" or other crop sown with the cotton. The estimate cannot be too high, because if it were cotton would be less remunerative than other crops, which it certainly is not. In the process of cleaning or extracting the seeds by the "churka," the raw cotton loses from two-thirds to three-fourths of its weight; that is to say, of the better kinds of cotton, one seer will be obtained from three seers of "kupas," the remaining two seers being "binoula," or seed. In the inferior qualities it requires four seers of "kupas" to produce one of cotton. It follows, then, that if we assume the average produce of an acre sown with the cotton to be 80 seers of "kupas," the average produce per acre of "rooe," or clean cotton, will be between one-third and one-fourth of that quantity. Probably 25 seers per acre will be a fair estimate. But this estimate is for ordinary years, as the present must be considered an exceptional year, the cotton crop having in many parts of the district been much injured by the heavy rain-fall in September. As a general rule, the "kupas" is cleared of seed and prepared for the market by the ryots themselves; but sometimes traders buy up the raw material in large quantities, and pay for its cleaning by hired workmen. In this case the workmen are paid in proportion to the amount of clean cotton produced. The rate varies from year to year, and differs in different parts of the districts. For producing a maund of clean cotton the rate is sometimes as low as 6 or 8 annas, and sometimes rises as high as 1 rupee: 8 annas may perhaps be taken as an ordinary rate. The cotton seed, or "binoula," obtained by passing the uncleaned cotton through the "churka," may be valued at about 1 rupee per maund. We thus have data for calculating the cost price of a maund of clean cotton of the best quality, as follows:—

	Rs.	a.	p.
Cost of 120 seers of kupas, at 10 seers per rupee - - - -	12	-	-
Cost of cleaning by "churka" - - - - -	-	8	-
	12	8	-
Deduct price of two maunds of seed, at 1 rupee per maund - -	2	-	-
	10	8	-

We thus obtain Rs. 10. 8. as the cost price of a maund of clean cotton. Allowing for the trader's profits and cost of carriage, we have from 12½ to 13 rupees as a fair market price under ordinary circumstances. This happens to be exactly the price of cotton at the present moment in the markets of the district. Taking, then, the average produce per acre of clean cotton at 25 seers, and 13 rupees as the price per maund, we get the following estimate of the out-turn of the district in maunds and its value:—

Area cultivated with Cotton.	Estimated in Maunds.	Estimated Value.
Acres - 89,022	55,639	Rs. 7,23,307

This represents the out-turn and the value in ordinary years. Probably in the present year the out-turn will not be much above 50,000 maunds, which, at 13 rupees per maund, will be worth 6,50,000 rupees. But the price will no doubt rise, both from the scantiness of the crop and the Manchester demand, so as to make the value considerably higher than this.

3. How is the cotton grown in the district usually disposed of; and, if exported, to what places, and ordinarily to what amount?—Of this total out-turn probably about seven-eighths is exported, and the rest remains for district consumption. All the cotton that is exported passes either through Chilla, on the banks of the Jumna, in pergunnah Pylanee, or through Rajapoor, on the Jumna, in pergunnah Cheloo. The principal cotton marts in the districts are Banda itself, Gogowlee in pergunnah Pylanee, Gookhea and Bisenda in pergunnah Seonda, Kalinger and Orun in pergunnah Budousa, and Rajapoor in pergunnah Cheloo. As a mart for cotton, Banda has of late years greatly declined, and been superseded by Rajapoor, through which place probably three-fourths of the cotton exported passes. From Chilla and Rajapoor the cotton is shipped in river-boats, and carried to Mirzapoor and Ghazeepeer. The average cost of transport is 1 rupee per cart to Chilla, and 4 rupees per cart to Rajapoor, a cart conveying from 9 to 12 maunds. The water carriage by boat from Chilla to Mirzapoor is 3½ annas per maund, and from Rajapoor to Mirzapoor from 2 to 2½ annas per maund.

4. What is the usual or best period for sowing the crop in the district?—The sowing takes

takes place in the month of Assar or July, commonly after the first fall of rain. The ground is generally manured if the ryot can afford it. It is ploughed only once or twice. It is never watered, but always weeded while the crop is springing up, generally three times, but sometimes four, and occasionally, but very rarely, as many as five or six times. The weeding takes place during Sawun or August, Bhadon or September, and the beginning of Kooar or October. Cotton is generally sown on high ground in lighter soils, on the sides of ravines for instance, or on elevated spots where the water cannot lodge.

5. At what time is it usually gathered when the crop is of this year's growing?—About the end of October the crop is generally matured; and the gathering takes place between then and the end of December.

6. Is the crop in the district usually an annual one, or is it usually allowed to remain standing for a second or third year, or for still longer periods?—The crop is always an annual one, fresh seed being invariably sown. The same plants are never allowed to remain standing for a second crop, as it is the opinion of the people of the district that the plants produce nothing in the second year. In this district the same land is never cultivated with cotton in two successive years. After a field has borne cotton, always two, and sometimes three, years are allowed to elapse before it is again sown with that crop.

7. Answered above.

I have, &c.

H. W. Dashwood,

Collector.

STATEMENT showing extent of Cotton Cultivation in different Pergunnahs in
Zillah Banda.

Name of Pergunnah.	Total Area in Acres.	Total Cultivated Area in Acres.	Cotton Cultivation in Acres.	Per centage of Cotton Cultivation on whole Area.	Per centage of Cotton Cultivation on Cultivated Area.
Banda - - -	2,42,983	1,44,300	8,759	3.6	6.07
Pylancee - - -	2,47,884	1,46,083	9,730	3.9	6.6
Ougasee - - -	2,82,849	1,35,468	3,298	3.5	6.1
Seondah - - -	1,83,483	1,08,712	5,684	3.1	5.2
Dursendah - - -	2,30,832	1,24,260	14,779	6.4	1.2 nearly.
Cheloo - - -	2,02,318	97,011	9,947	4.9	0.2
Tirohan - - -	3,41,327	70,878	17,297	5.	2.2 nearly.
Budousa - - -	3,38,936	1,20,837	14,528	6.	1.2
TOTAL - - -	19,20,312	9,55,552	89,022	4.6	9.3

H. W. Dashwood, Collector.

Enclosure 3, in No. 71.

From Deputy Commissioner of Jaloun, to Secretary to the Sudder Board of Revenue, North Western Provinces, Allahabad (No. 81 A.); dated Camp Calpee, 21 November 1861.

Sir,

I HAVE the honour to acknowledge receipt of Sudder Board of Revenue's Circular, No. E. E. of 1861, dated the 11th instant, and in reply to forward copy of cotton statement sent to the Manchester Cotton Association through the Commissioner.

2. This report will be found to contain information on all the points alluded to by the Board.

I have, &c.

A. H. Ternan,

Deputy Commissioner.

JALOUN DISTRICT.

Area, 2,313 Square Miles.—Population, 2,46,297 Inhabitants.

Question 1. Is the cotton plant cultivated in your district?—*Answer.* Yes, to a large extent; but it is impossible to state with anything like accuracy the amount of land given up for such cultivation, particularly since entire destruction of official records in 1857–58. One-third of the district may be given as a proximate amount. The cotton crop is one of the autumn crops collected in December. The seed when separated from the pods is used for fattening cattle, as also are the stems.

2. What are the varieties?—There are no varieties in this district; but the cotton grown in Bundelcund, south of the Betwa river, is considered superior to that produced in this district and in the North-west in general. Large quantities are sent down, through Calpee on the Jumna, to Calcutta for shipment. In this district rich alluvial soil, called "mar," about the towns of Koonch and Jaloun, yields the best quality.

I.
India.

3. If the American variety grows in your district, when was it first introduced, and has its cultivation increased or fallen off?—Having no data to go upon, I can only state from hearsay that the American cotton was introduced by the East India Company in the neighbourhood of Calpee under the superintendence of some American gentlemen; but from mismanagement, I believe, greatly and want of irrigation the experiment failed. At one time the East India Company had a large factory at Calpee, and bought up largely the native cotton for export to China and Europe. The factory was closed on the Honourable Company ceasing to be a trading company, and it was sold to a private firm, which carried on business within a few years of the late disturbances. There is every reason to believe the American cotton would thrive in this district.

4. Can you give the statistics, *i.e.*, the number of acres cultivated, and the annual amount of produce, also the yield per acre?—As above stated, no American cotton is now grown in this district, nor can any exact statistics be as yet furnished of the number of acres cultivated, or amount of produce of even native cotton. As far as I have been able to ascertain from native documents, about 66,000 acres are sown with cotton; when the rains are plentiful, the amount of produce may be estimated at 70,000 maunds, or 5,60,000 lbs. The average produce is as follows per acre, seed 10 lbs.:—

PRODUCE.					
Cotton raw	-	-	-	-	320 lbs.
Cotton spun	-	-	-	-	80 lbs.

5. Is it your opinion that the American plant in your district deteriorates in quality and staple each year when preserved from admixture with other varieties?—From want of experience in the matter, it is impossible to answer this question satisfactorily.

Judging from the effect of the climate on American vegetables in general, I think American cotton would deteriorate annually; but let the American plant have a fair trial before we build upon what may be an error. As I said before, a former experiment failed, but it may have been from want of experience or knowledge in those to whom this important question was committed.

6. What is the peculiar nature of the soil and climate?—There are four varieties of soil in this district, yielding as follows:—To 10 lbs. of seed sown in one acre mar or rich black alluvial soil, most favourable for cotton, yielding raw cotton 320 lbs., spun cotton 80 lbs. Kabur, next to the mar in richness, but with a greater admixture of clay. A hot sun causes large fissures to open in every direction; these absorb the water so necessary for the growth of cotton; again, the hot wind gets to the roots of plants through these fissures and destroys them. Yields per acre, raw cotton, 240 lbs.; spun cotton, 60 lbs. Purwah, a good description of light sandy soil, requiring good irrigation however, when it produces most crops abundantly—yields, raw cotton, 160 lbs.; spun cotton, 40 lbs.

The heat in this district is very great from the 1st of April to the 15th of October or 1st of November. The rainy season sets in about the end of June, and continues till the middle of September or till the 1st of October. The average fall of rain is from 30 to 40 inches. From the 15th of November to the 1st of March the climate is good, and favourable to the European residents.

7. Is irrigation employed in cultivation? If not, would irrigation improve the quality and increase the quantity; and is it available?—Irrigation is not generally employed in the cultivation of cotton. The plant is sown at the beginning of the rainy season, and the mar soil retains its moisture for many months sufficiently to keep the plants healthy. No irrigation could be used in "kabur" soil, for the fissures caused by a hot sun would absorb the whole without any benefit. Water is in this district found far below the surface; wells are consequently very expensive and little used by the cultivators. In most soils, irrigation where used produces splendid crops. During the dry season the cultivators sometimes dig temporary wells, which are allowed to fall in during the rains. I must mention that the natives often mention an insect they call "mahoon" as most injurious to the cotton plant.

8. What is the estimated quantity of clean cotton produced per acre, and what extent of ground could be devoted to its production?—An acre of land produces about 80 lbs. of clean cotton. The cultivation might easily, I think, be doubled. The plants require continual weeding and attention. The cultivators would no doubt raise cotton in abundance if they saw it yielded in the market a better price than wheat, which is now grown to a great extent.

9. Can the cultivation be extended with facility?—I think cotton cultivation could be greatly extended and with facility, but to do so you must bring into the market European agency, Eurasian agency, and European capital. The native will do nothing. Again, the laws regarding the land-tenures in the country must be altered, to admit the requirements of our European civilization approaching more to the nature of tenures in Europe.

10. Are there obstacles to its cultivation, and of what nature?—I know of no obstacles to its cultivation, if proper means are used. A want of rain would no doubt bring a partial failure of cotton crop with it; but in many instances, again, artificial irrigation might amply supply the deficiency.

11. What is the probable consumption by the natives, and what the quantity available for export?—About 20 per cent. is the probable consumption of the natives, and the rest is available for export. Full and most complete returns of the cotton produced in this district are to be found among the records of the India Office.

12. Are there any and what merchants in your district who are buyers of cotton from the growers, or who would buy cotton if produced? If not, what would be the necessary agency to employ to purchase the cotton and send it to England?—The cotton of this district is generally bought up by agents from the large native firms at Mirzapore. These
depute

depute men into the districts, who make advances to the cultivators or farmers at the sowing season, and they (in January and February) take the cotton to Calpee, from whence it goes by water to Mirzapore. An European agent or assistants, European and native, at Calpee, on the Jumna, would be, I think, the best agency to employ for the purchase of cotton and transmission of it to England.

13. At what probable price can it be purchased clean, either at the place of growth or at the port of shipment?—The price of clean cotton in the gathering season, when it is cheapest, is from 10 rupees to 12 rupees for a maund or 80lbs.; and in the beginning of November, before new crop is produced, it runs up to 15 rupees and 18 rupees for 80 lbs. The rates at the shipping ports would depend on the demand and supply, and cannot be ascertained here.

14. What are the means of conveyance from the cotton fields to the port of shipment, and the cost per pound; and are they capable of being facilitated, and in what manner?—This district is a large tract of level country. From November to July the roads are excellent, and offer no obstacles whatever to traffic. The cotton is carried on bullock-carts to Calpee, and there taken on boats to Mirzapore and Calcutta. The cost is about one rupee for 80lbs. from Calpee to Calcutta. Steamers drawing little water might be used on the Jumna with great advantage to commerce, and a railroad from Cawnpore to Gwalior would give access to the wealth of this district and neighbouring districts of Bundelcund and Gwalior.

15. Are the growers supplied with good seeds, and would they attend to the cultivation of superior seeds if supplied them?—The seed at present used is the produce of the district. The native of India does not experimentalise; he only goes a beaten path. The cultivators would take no interest in the matter. When Europeans come as settlers in the land, such experiments can fairly be tested with immense advantage to the country in general as well as to individuals; till then, failure will most likely ensue.

16. Are they furnished with other machinery than the churka for cleaning, or presses for baling the cotton, or in what manner is it packed for the market?—The churka is the only machine used in this district; no presses have been known since the closing of the factory at Calpee. The cotton is packed in common gunny-bags or large nets, and arrives in the market in a most filthy state.

17. What is the cost of cleaning cotton per pound by the churka or other machine used?—The cost of cleaning by the churka is one rupee, or two shillings for 80 lbs., and one man can clean from 20lbs to 24lbs. daily.

18. Can and will you favour us with samples of cotton grown in your district?—Samples of best quality of cotton produced in this district are herewith forwarded.

19. It being important that seed of the American variety should be saved for re-sowing in order to extend its growth, will you take steps forthwith to secure it in a pure and unmixed state?—Should American cotton be introduced into this district, as I said before, it must be through agents appointed for that special purpose, and who know the language of the country, and are accustomed to deal with Asiatics. No other person can give such an important subject the attention it will require, or possess the experience and knowledge desired.

20. Will you please furnish samples of cotton or goods made from cotton by the natives, and state the cost of manufacture and selling price?—The clothes made in the district are of the coarsest description, and the population is clothed chiefly in British fabrics. The cloths of the district sell at about two annas per yard.

21. Will you furnish this Association with a printed or other statement of the extent of waste lands in your district, and also a sketch-map of the same on the smallest scale possible?—The waste lands of the district are generally scattered in patches of no great extent here and there, and are useless for all purposes of cultivation, being from the nature of the soil unproductive, and fit for grazing cattle only. No map is consequently furnished.

22. Will you favour the Committee with a detailed communication upon all its points referred to in the above questions, and generally offer suggestions as to the most effectual manner in which the trade and commerce of your district may be extended, giving special reference to cotton, as it is proposed to publish your letter with your replies in the "Cotton Supply Reporter" (published by this Association), for the benefit both of the people of India and of this country?—In answering the foregoing questions, however crudely from want of data to go upon, I have laid before the Committee all the information I have been able to procure in this district, either by my own efforts or those of the officers under me. To extend the trade of India with England, to indeed make India pay to bring out its enormous natural wealth, Europeans of energy, capital, and science must come and settle in the land. As heads of labour, they will instil into the native gradually some wish to progress, and both parties will find their advantage in improvement. Innumerable are the products of the country, many of which are ignored or but partially known by the natives, and only require European energy to cause their full development. Among other neglected productions are silk, indigo, the various dyes, vegetable oils, hemp, jute, safflower, sugar-cane, which only requires care to equal that of the West Indies. The wealth of India is an unexplored mine of which the surface only has been scraped. The common churka used by the natives only cost five annas. No native cultivator would pay the cost of a cottage-gin or give cotton in exchange; but if he saw cotton factories springing up all over the country, then his prejudices would give way to the palpable benefit to his pocket.

I have, &c.

A. H. Ternan,
Deputy Commissioner.

1859.

Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Seharunpoor	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Meerut	13 5 3	13 5 3	12 13 -	14 8 6	16 - -	16 - -	12 8 -	12 5 -	11 8 -	12 5 -	12 4 9	10 - -
Allypore	14 8 -	44 10 -	15 4 -	17 12 5	16 - -	14 8 -	14 8 9	13 5 3	12 5 -	11 6 9	11 - -	9 6 6
Moradabad	15 5 4	13 5 4	13 5 4	16 - -	16 - -	16 - -	16 - -	17 8 -	12 4 -	11 8 -	10 11 -	10 - -
Bareilly	14 6 4	16 - -	15 3 -	18 9 -	20 - -	17 8 -	13 5 4	10 10 8	12 5 -	11 7 -	9 13 9	9 11 -
Budson	16 - -	16 - -	14 8 9	16 - -	20 - -	20 - -	20 - -	12 12 -	13 5 3	13 5 3	10 10 6	10 - -
Muttra	14 - -	14 - -	16 - -	17 8 -	17 8 -	18 - -	16 - -	20 - -	11 - -	10 - -	12 - -	12 - -
Agra	19 - -	15 - -	20 - -	20 - -	22 - -	18 12 -	20 - -	13 - -	11 - -	15 - -	18 - -	12 4 11
Furruckabad	20 - -	20 - -	24 - -	22 - -	17 12 6	24 - -	24 - -	25 - -	25 - -	25 - -	16 - -	16 - -
Goruckpoor	17 12 5	17 8 -	13 5 4	20 - -	20 - -	17 12 5	24 9 10	13 5 4	17 12 5	20 - -	13 5 4	11 7 -
Mirzapoor	17 8 -	20 - -	22 13 8	22 13 8	17 4 9	22 13 9	22 13 9	13 12 -	16 - -	13 12 -	12 8 -	11 7 -
Benares	16 - -	20 - -	16 13 6	18 4 7	17 4 9	20 - -	24 9 10	22 13 9	20 - -	14 8 9	14 8 9	14 8 9
Ghazepoor	20 - -	20 - -	14 8 9	15 3 9	16 - -	16 13 6	14 8 9	13 5 4	12 4 11	16 - -	10 - -	9 6 -
Jubbulpoor	20 - -	20 - -	16 - -	17 8 -	17 12 -	16 - -	18 - -	17 15 -	16 - -	12 - -	10 9 6	10 - -
Saugor	20 - -	20 - -	16 - -	17 8 -	17 12 -	16 - -	18 - -	17 15 -	16 - -	12 - -	10 9 6	10 - -

1860.

Seharunpoor	10 - -	9 8 -	10 - -	10 - -	10 - -	8 15 -	11 8 -	11 8 -	12 5 -	13 5 -	11 14 -	11 - -
Meerut	9 6 6	10 - -	9 6 9	8 14 3	8 6 3	7 9 3	10 9 3	10 10 6	10 10 8	11 - 6	10 - -	9 6 6
Allypore	10 12 -	10 - -	8 - -	7 9 -	7 4 -	7 4 -	10 - -	10 10 6	10 10 6	12 5 -	11 7 -	11 - -
Moradabad	9 11 -	10 - -	10 - -	9 6 9	9 6 9	9 6 9	11 7 -	9 6 7	9 6 7	11 7 -	9 6 7	9 6 6
Bareilly	10 10 8	9 6 -	8 12 9	8 12 -	9 4 -	8 13 -	10 - -	9 14 -	9 9 6	11 7 -	10 - -	10 - -
Budson	10 10 8	11 7 -	9 5 9	11 6 9	11 6 9	7 10 3	9 6 3	10 10 8	10 - -	13 1 -	12 12 -	11 6 9
Muttra	11 8 -	9 8 -	8 4 -	7 - -	7 - -	8 - -	9 8 -	9 - -	10 4 -	10 8 -	10 8 -	10 - -
Agra	12 8 -	10 12 -	11 - -	10 12 -	10 8 -	10 - -	10 - -	13 5 4	11 - -	13 4 -	11 8 -	10 - -
Furruckabad	25 - -	25 - -	20 - -	20 - -	20 - -	20 - -	12 12 -	13 8 -	13 8 -	15 - -	14 - -	15 - -
Goruckpoor	10 - -	10 - -	13 5 4	13 5 4	13 5 4	13 5 4	13 5 4	13 5 4	13 5 4	16 - -	13 5 4	13 12 -
Mirzapoor	13 - -	12 8 -	13 - -	13 - -	13 - -	12 8 -	10 - -	10 - -	10 10 -	14 - -	17 8 -	13 12 -
Benares	16 - -	13 5 4	13 5 4	13 5 4	13 5 4	14 8 -	12 8 -	13 5 3	12 12 9	13 - -	13 - -	14 8 6
Ghazepoor	17 12 5	17 2 5	14 8 9	14 8 9	12 12 9	12 12 9	12 12 -	12 12 9	12 12 9	14 3 6	15 3 9	14 3 6
Jubbulpoor	10 - -	10 - -	9 6 -	8 6 8	11 9 9	12 4 11	8 - -	10 - -	10 - -	10 - -	8 14 9	9 2 3
Saugor	11 7 -	11 7 -	11 7 -	10 - -	11 9 9	12 4 11	9 11 2	10 6 -	10 1 5	10 7 -	10 4 -	11 - -

COTTON CULTIVATION IN INDIA.

239

1861.

Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Seharunpoor	Rs. a. p. 9 6 -	Rs. a. p. 11 8 -	Rs. a. p. 11 8 -	Rs. a. p. 11 8 -	Rs. a. p. 11 8 -	Rs. a. p. 10 - -	Rs. a. p. 9 6 6	Rs. a. p. 8 - -	Rs. a. p. 8 - -	Rs. a. p. 9 1 -	Rs. a. p. 9 6 -	Rs. a. p. 9 7 -
Meerut	8 13 -	9 6 6	10 - -	10 - -	10 - -	10 - -	12 5 -	8 - -	8 - -	9 2 3	8 6 9	8 12 -
Allypurr	10 10 -	9 10 6	10 10 8	10 10 8	10 5 -	11 7 -	12 5 -	10 - -	10 - -	11 7 -	10 10 6	10 - -
Moradabad	8 14 -	10 - -	10 10 8	10 10 8	10 - -	11 - 6	10 10 8	10 10 -	10 - -	9 6 8	9 11 2	9 3 8
Bareilly	10 - -	10 12 9	10 13 -	10 13 -	12 - -	12 12 -	12 - -	10 - -	10 - -	9 15 -	10 12 9	10 6 6
Budaon	8 10 -	9 9 -	10 10 8	10 10 8	9 8 10	13 5 4	10 5 2	11 - 9	9 8 10	12 9 7	10 10 8	10 - -
Muttra	10 - -	10 - -	10 10 8	10 10 8	10 10 8	10 10 8	10 - -	8 14 1	8 - -	10 - -	9 9 -	10 - -
Agra	11 8 3	11 - -	10 - -	10 - -	10 - -	10 - -	10 - -	9 - -	10 - -	10 - -	10 - -	9 12 -
Farruckabad	14 4 -	10 10 8	11 6 11	11 6 11	11 13 7	11 13 7	11 13 7	11 13 7	10 10 8	11 7 -	11 13 7	11 7 -
Cawnpoor	11 7 -	13 5 4	13 5 4	13 5 4	13 5 4	11 7 -	11 7 -	11 7 -	13 5 4	11 7 -	11 7 -	10 10 8
Banda	11 - -	11 - -	11 - -	11 - -	11 - -	11 8 -	11 - -	11 - -	11 - -	11 - -	11 - -	10 12 -
Allahabad	15 - -	15 - -	13 - -	13 - -	16 - -	15 - -	16 - -	16 - -	16 - -	15 - -	15 - -	13 - -
Goruckpoor	15 - -	12 4 11	12 3 -	12 3 -	12 4 11	11 6 10	11 13 7	11 7 -	11 7 -	11 6 10	12 4 11	12 4 11
Mirzapoor	14 8 6	14 8 6	14 8 6	14 8 6	14 8 6	13 5 3	13 5 3	13 5 3	13 5 3	14 8 6	14 8 6	14 8 6
Benares	14 8 6	14 8 3	13 10 10	13 10 10	17 4 9	17 4 9	16 - -	15 3 9	16 - -	14 8 6	16 13 6	16 - -
Ghazeepoor	8 14 2	10 - -	9 2 2	9 2 2	10 - -	9 6 -	9 6 -	9 6 -	9 9 -	8 6 8	8 - -	10 - -
Jubbulpoor	10 - 7	9 11 1	9 4 2	9 4 2	9 4 5	9 8 10	9 2 2	9 13 6	9 8 -	9 - 8	13 - 11	12 2 6
Saugor												

1862.

Districts.	January.	February.	March.	April.	May.
Seharunpoor	Rs. a. p. 8 14 -	Rs. a. p. 8 14 -	Rs. a. p. 9 - -	Rs. a. p. 9 6 -	Rs. a. p. 10 - -
Meerut	8 - -	8 - -	8 - -	8 - -	9 2 3
Allypurr	9 6 7	9 6 7	10 4 -	10 10 6	10 10 6
Moradabad	10 - -	10 5 -	10 - 6	10 - -	11 6 10
Bareilly	10 - -	10 - -	10 - -	10 6 6	12 12 -
Budaon	10 - -	9 9 -	9 9 -	9 8 9	12 4 11
Muttra	9 12 -	9 12 -	11 - -	9 9 -	10 - -
Agra	11 - 9	10 - -	11 - -	11 - -	10 - -
Farruckabad	12 9 7	12 4 11	11 7 -	11 7 -	11 7 -
Cawnpoor	10 - -	14 8 -	10 8 -	10 8 -	12 - -
Banda	13 - -	14 8 -	14 - -	15 3 -	13 - -
Allahabad	12 4 11	11 7 -	14 8 9	14 8 9	14 8 9
Goruckpoor	14 8 6	14 8 6	11 7 -	11 13 7	11 7 -
Mirzapoor	16 - -	16 - -	16 - -	14 8 6	14 8 6
Benares				16 - -	16 - -
Ghazeepoor					

Sudder Board of Revenue, North-Western Provinces,
Allahabad, 24 June 1862.G. H. M. Batten,
Secretary.

I.
India.

— No. 72. —

FOREIGN DEPARTMENT.

Abolition of Duties on Cotton within the Territories of the Rajas of Seetamow and Sillana.

From Major *R. J. Meade*, Agent Governor General for Central India, to Colonel *H. M. Durand*, c.B., Secretary to the Government of India, (dated Indore Residency, 18 August 1862).

Sir,

Raja of Seetamow.
„ Sillana.

IN continuation of my letter, No. $\frac{18}{170}$ of date 18th ultimo, I have the honour to report, for the information of his Excellency the Governor General in Council, that the chiefs, as per margin, have followed the example set by the Nawab of Jowra, and have abolished all duties on cotton within their respective territories.

2. I have addressed each of these chiefs, in suitable terms, commending their adoption of this liberal measure.

3. I take the opportunity of mentioning that many of the chiefs under this agency have begun to comprehend and appreciate the probable effects on and advantages to this country of the present cotton crisis in England, and that they have expressed a desire to increase the general cultivation of this staple to the utmost extent possible.

4. I have taken much pains, on every suitable occasion, to explain to all concerned the chief causes which have hitherto prevented Indian cottons competing in price in the English market with that of America and other countries, which may be briefly stated as,—

1st. Inferior and careless cultivation and the use of inferior seed.

2d. Carelessness in gathering the crop, the bolls being allowed to fall on the ground, and being collected therefrom, instead of being regularly plucked from the tree when ripe.

3d. The injurious method commonly adopted of extracting the seeds, and partially clearing the cotton from the dirt and foreign substances which get mixed with it while lying on the ground, by which the staple is seriously damaged, and, to some extent, unfitted for the purposes of the spinner and manufacturer.

5. A general desire has been expressed by all the chiefs to devote more attention and care to the cultivation of this article on the points adverted to above, so as to improve its quality so far as may be found possible; and the Nawabs of Jowra and Baoni, in Bundlekund, have requested me to endeavour to procure for them a supply of American cotton seed, while many of the other chiefs would also be glad to get some.

6. I am not aware if any arrangements have been made by the Manchester or any other cotton association for supplying good seed where such is thus applied for; but I think it is most important that the means should be available for promptly complying with such requests, and I trust it may be in your power to put me in the way of obtaining for the above purpose any quantity of good seed that may be required.

The sowing season has passed for this year, but it will be well to make betimes such arrangements in this respect as are requisite to ensure the issue of full supplies of seed for the next season to those applying therefor.

7. Next to good seed simple and cheap cotton gins, or cleaning machines, and conveniently situated screw presses for screwing and securing the bales for transit, are the things most urgently required to facilitate the dispatch in good condition of carefully cultivated cotton.

8. Several descriptions of cleaning machines have been invented, and efforts have been made by various officers to bring them into general use; but none of them

them that I have seen are popular with the natives, and they have not as yet, to any useful extent, in these parts at least, superseded the common native gin, which has been employed for the purpose from time immemorial.

Extreme simplicity and lowness of price are essential to the general introduction of an improved cleaning machine, and it is quite hopeless to expect that the poor cultivators and cleaners of cotton will pay 20 rupees for such a machine when that ordinarily used by them does not cost one rupee.

9. With respect to cotton presses there is not, that I am aware of, a single one within the limits of this agency. That formerly at Calpee has not, I am informed, been in use since the mutiny.

It seems to me to be impossible to over-estimate the injury that huge loose unscrewed bales of cotton must meet with while in transit on bullocks for considerable distances over dusty roads, many miles of which perhaps run through thorny jungles which abstract a portion of its contents from each bale; but for this there can be no remedy till local presses are established at the most generally convenient place in each cotton district; and, as such presses require a considerable outlay in the first instance, I see little present hope of their introduction by the native chiefs themselves.

Such a press is much required at Bhind, which is the chief emporium of the cotton grown in the north-eastern districts of Gwalior, and from which there is a large and increasing export of this staple to Calcutta, *via* Etawah.

I.
India.

— No. 73. —

EXTRACT, India Revenue Consultations, 5 September 1862.

From *E. C. Bayley*, Esq., Secretary to the Government of India, to the Secretary to the Bengal Chamber of Commerce, (No. 4776, dated 5 September 1862.)

I BEG to direct attention to the rules of competition in 1861-62 for the Government cotton prizes published in the Government Gazette on the 10th August 1861, and to request that you will be so good as to inform me of any modifications of those rules which the Chamber of Commerce may consider desirable for the current season.

Rules of competition
for Government
Cotton Prizes.

From *E. C. Bayley*, Esq., Secretary to the Government of India, to the Acting Secretary to the Agricultural and Horticultural Society, (No. 4777, dated 5 September 1862.)

I BEG to direct attention to the rules of competition in 1861-62 for the Government cotton prizes published in the Government Gazette on the 10th August 1861, and to request that you will be so good as to inform me of any modifications of those rules which the Agricultural and Horticultural Society may consider desirable for the current season.

— No. 74. —

EXTRACT, India Revenue Consultations, dated November 1862.

From *S. H. Robinson*, Esq., Acting Secretary to the Agricultural and Horticultural Society, to *E. C. Bayley*, Esq., Secretary to the Government of India, (dated 11 October 1862.)

I HAD the honour to submit your letter of 5th ultimo, No. 4777, referring to the rules for Government cotton prizes, to the Council of the Agricultural and Horticultural Society; and I now beg to inform you that the Council consider the rules unobjectionable, and they do not desire to suggest any modifications in them for the current season.

I.
India.

From *H. W. J. Wood*, Esq., Secretary to the Bengal Chamber of Commerce, to
E. C. Bayley, Esq., Secretary to the Government of India, (dated 24 October
1862).

WITH reference to your letter, No. 4,776, of the 5th ultimo, I am directed by the Committee of the Chamber of Commerce to state that, in their opinion, the rules published in August 1861, relative to the competition for Government cotton prizes, are all that could be desired for the object in view, for the present at all events. Hereafter, circumstances in connexion with the competitive cultivation may render it necessary to modify those rules, and the Committee will then consider in what respect they should be altered, and submit their report thereon.

NOTIFICATION, No. 6386, dated 11 November 1862, (No. 3.)

HIS Excellency the Governor General in Council has resolved that in the territories subordinate to the Presidency of Fort William, the conditions of competition for the Government cotton prize of 1862-63 shall be the same as those observed in the past season. The following rules, therefore, based on the Government Resolution, which appeared in the "Gazette" of the 10th August last year, are now published for general information.

A. The prize will be given for the largest quantity of cotton, combined with the best quality, which shall be grown upon any one estate within the Presidency during the season of 1862-63, and which shall be brought for shipment to any port, in or before the month of June 1863.

B. Cotton, from whatever district in the interior it may have come, will, if intended for shipment from any port in the territories subordinate to the Presidency of Fort William, be considered eligible to compete for the prize.

C. The extent of ground under cultivation must not be less than 30 acres, all belonging to one property, or cultivated by one superintendent.

D. The fulfilment of the last-named conditions must be certified by the chief revenue officer of the district in which the estate is situated, or by any other agents, specially recognised by the Government for that purpose.

These two last rules are intended to prevent the prize being given to a selection of picked samples from a large area, which would require none of the care or attention to the general cultivation of the plant which it is the desire of Government to encourage.

E. The prize will be awarded by the Chamber of Commerce at Calcutta, if the gentlemen representing that body will consent to undertake the task.

F. A sealed sample of the cotton must be sent, by each competitor, to the Chamber of Commerce, and the consignment to which the prize is awarded, will afterwards be inspected by the Chamber, and verified as corresponding with the sample. In case of its being desired to ship the consignment at an out-port, the inspection of it will be made by some person specially appointed by the Chamber of Commerce.

G. Each sample must be accompanied by a full and clear statement by the grower, of the system which has been pursued in the cultivation; with an accurate and detailed account of all the expenses incurred.

H. Any subsidiary rules which may be found requisite will be laid down by the Chamber of Commerce.

All public officers, whose assistance may be sought, in respect to the conditions of the fourth rule, or for any other object, are enjoined to give their cordial co-operation in carrying out the intentions of Government.

E. C. Bayley,
Secretary to the Government of India.

— No. 75. —

(No. 771.)

I.
India.

From *G. H. M. Batten*, Esq., Secretary to the Sudder Board of Revenue of the N. W. Provinces, Allahabad, to Sir *George Couper*, Bart., C.B., Secretary to the Government of the N. W. Provinces, (dated Allahabad, 18 October 1862).

Sir,

IN the beginning of September (the earliest period at which such an inquiry was practicable), the Sudder Board of Revenue called for returns from all the districts in the North Western Provinces, of the approximate area brought under cotton cultivation in the present season, and of the prospects of the crop.

Revenue—Present,
W. Muir, Esq.,
Senior Member;
and R. Money, Esq.,
Junior Member.

2. Up to May or June last, the market price of cleaned cotton had not reached higher than from 9 or 10 rupees per maund in the western districts, to 15 or 16 in the eastern. The speculation, caused by the urgency of the demand from England, began, at this point, to act with an extraordinary effect upon the market throughout the country. There was a sudden and great rise of price, but the advance was neither uniform nor sustained, retrograding sometimes as much as three and four, and even five and six rupees per maund, within the course of a few days, and then starting upwards again. The following details will show the general progress of prices. The figures denote the rate in rupees per maund of 80lbs:—

MONTH.	Meerut.	Agra.	Mirzapore.	Ghazeepore.
May - - -	Rs. 7 to 9	Rs. 11 to 14	Rs. 11	Rs. 15 to 17-8
June - - -	"	" 12 to 14	" 16	" 15 to 17
July - - -	" 10	" 11 to 19	31-4 Maximum.	" 17 to 24
August - - -	" 12	" 13-8 to 17-8	22-8 Minimum.	" 25 to 22
September - - -	" 10 to 15	" 14-10 to 23	30 Maximum.	" 22 to 26-8
October - - -	" 12-8 to 14	"		

3. It will be seen that speculation has gone the greatest length at Mirzapore, the price having repeatedly risen above 30 rupees a maund, or 84 shillings a cwt., above 9*d.* a lb.

4. The immediate result was to draw forth, from all parts of the country, a large portion of the stock which had been kept for local consumption, and cotton from all directions was hurried down the country by every possible means of conveyance. An estimate of the amount that has been thus exported, will be given at a farther part of this report. Meanwhile, it will at once be perceived that the attention of the people could not but be universally turned to the subject, and to the great profits that might be expected from the cultivation of cotton, were it only to supply the vacuum caused by the exportation of existing stocks for local consumption. The probability, likewise, of a continuance of the present high prices, or even of a farther enhancement, began to be apprehended by the people, and the merchants at the chief entrepôts eagerly watched the telegrams of prices in England, and the progress of events in America.

5. The sudden enhancement of the price of cotton, however, was too long deferred to have its full effect upon the sowings of the year. In the cotton growing districts, the excitement had hardly reached the local markets by the end of June, when arrangements must be made for the coming crop. The extension of cultivation which has actually taken place, is rather attributable to the previous general rise of price, than to the later and more extraordinary rise.

6. Thus far of the effect of the market upon the present crop: the Board proceed to notice the effect of the season.

I.
India.

7. As explained in paragraph 17 of my letter, dated the 24th June, cotton, to succeed well, must be sown towards the end of June, or early in July. In most of the western districts, rain fell sufficiently early to admit of this being done; but in the Lower Doab and Bundelcund, there was no fall of rain till about the 5th or 6th of July; it then rained incessantly for about three weeks, and thus the cultivator had hardly an opportunity to effect any sowings till the season for sowing had passed away. Thus, while the increase of area, estimated as now under cotton, exceeds 31 per cent. in the Agra division, it is as low as 20 per cent. in the Allahabad and Bundelcund districts. In the Futtehpoore and Allahabad districts, there has been an actual decrease of area, wholly attributable to this cause.

8. The above remarks will sufficiently explain the variations in the following table. The out-turn of clean cotton is calculated at the same average rates as were taken for the previous season, the grounds of the assumption having been fully explained by the Board, in paragraphs three to five of my letter, dated 24th June.

DIVISION.	DISTRICT.	1861-62.		1862-63.		Estimated Increase over last Year.
		Acres.	Maunds of Clean Cotton of 80 lbs. each.	Acres.	Maunds of Clean Cotton of 80 lbs. each.	
Meerut - -	Seharunpore - -	23,750	35,750	24,000	—	—
	Moozuffernugger - -	17,000	25,500	20,000	—	—
	Meerut - -	36,000	54,000	45,000	—	—
	Boolundshuhur - -	24,750	37,000	33,227	—	—
	Allygurh - -	1,65,000	2,00,000	1,95,000	—	—
	TOTAL - - -	2,66,500	3,52,250	3,17,227	4,50,000	27 per cent.
Rohileund - -	Bijnour - -	23,000	34,500	25,350	—	—
	Moradabad - -	27,500	42,000	33,000	—	—
	Budaon - -	52,500	78,500	80,000	—	—
	Bareilly - -	24,000	36,000	26,367	—	—
	Shajehanpore - -	8,000	8,000	9,000	—	—
	TOTAL - - -	1,35,000	1,99,000	1,73,717	2,50,000	25 per cent.
Agra - -	Muttra - -	68,000	90,000	79,400	—	—
	Agra - -	73,826	1,00,000	1,13,535	—	—
	Etah - -	26,000	39,000	35,000	—	—
	Mynpoory - -	19,000	28,500	25,000	—	—
	Etawah - -	47,000	70,000	56,300	—	—
	Furruckabad - -	10,000	15,000	11,000	—	—
	TOTAL - - -	2,43,826	3,42,500	3,20,235	4,50,000	31½ p'cent.
Allahabad - -	Cawnpore - -	63,000	90,000	70,400	—	—
	Futtehpoore - -	24,000	30,000	23,250	—	—
	Banda - -	89,000	60,000	1,20,000	—	—
	Allahabad - -	27,000	27,000	18,300	—	—
	TOTAL - - -	2,03,000	2,07,000	2,31,950	2,50,000	20 per cent.
Jhansie - -	Jhansie - -	28,000	28,000	28,000	—	—
	Jaloun - -	50,000	60,000	62,000	—	—
	Humeerpore - -	38,500	34,000	4,400	—	—
	TOTAL - - -	1,16,500	1,22,000	1,34,000	1,50,000	22 per cent.
GRAND TOTAL - -		9,64,826	1,222,750	1,177,129	1,550,000	26½ p' cent.

9. It is to be remembered that the above is for the most part only an estimate, in some districts checked by reference to the village papers, in others founded upon general observation. The aggregate result, however, is believed to be approximately correct.

10. The cultivation of cotton is still unknown as a source of traffic in the Benares and Goruckpore divisions and in the hills. Only in Mirzapore there has been an increase of some 1,400 acres, making the total cultivation there somewhere about 4,000 acres.

11. The entire area under cultivation, it will be seen, is 1,177,000 acres as against 9,65,000 in the previous year, or an increase of 22 per cent.

12. The estimated out-turn of clean cotton is in maunds about one million and a half (or 1,100,000 cwts.) as against one million and a quarter (or 8,00,000 cwts.) in the previous year, or an increase of 26 $\frac{1}{2}$ per cent.

13. But the Board regret to state that this as the average estimate of the produce that might have been looked for is not likely to be realised. The season, favourable for almost every other crop, has been an unfortunate one for cotton. The plant itself has been generally reported strong and healthy, but the long-continued stormy weather and violent rain in September have seriously ruined the prospects of the crop. The same unfavourable report has arrived from every quarter, and the Board fear there will be with hardly any exception a scanty and indifferent out-turn. The collector of Meerut reports that the plants have in many places shed their still undeveloped pods, broken off as stalks of wheat are by a hailstorm. In some other quarters the damage seems to have been done at an earlier stage, when the blossoms decayed, and fell off from continued wet, and the absence of sunshine. In many places the cultivators have been so dispirited by the prospect of loss, that they have neglected to weed the plant.

14. It is impossible at this early period of the season to say what the proportion of loss is likely to be. The first pickings are the most plentiful and the best, and a large portion of these in many parts have been irremediably injured and lost. But, as before stated, the plants are generally healthy, and the secondary flowings may yet lead to valuable produce, sufficient in a great measure to make up for the loss. In some parts of the Upper Doab where the sowings were early, there has already been a gathering of blown cotton, though it may be feared of an injured quality.

15. Towards the end of the year, the Board will again report how far these fears and hopes, respectively, have been justified by the result.

16. I am now directed to place before the Government such information as the Board have been able to collect of the amount of cotton lately transported, or now on its way to Calcutta.

17. Mr. Brodhurst, Collector of Ghazeepore, writing at the end of September, estimates on careful inquiry that upwards of 2,00,000 maunds (nearly 1,50,000 cwts.), have either passed down the river since May last, or were ascertained to be *en route* from Agra, Mirzapore, &c. The details are as follows:—

<i>Already Exported :</i>				<i>Maunds.</i>	<i>Maunds.</i>
238 boats from western stations to Calcutta	-	-	-	88,725	
47 ditto from Ghazeepore	-	-	-	19,625	
					1,08,350
To other stations east of Ghazeepore	-	-	-	-	30,000
<i>En Route :</i>					
Coming from Agra	-	-	-	-	20,000
Ditto from Mirzapore	-	-	-	-	25,000
Being laden at Ghazeepore	-	-	-	-	5,000
In store at ditto for exportation	-	-	-	-	10,000
Despatched by Ganges Steam Navigation Company's steamers	-	-	-	-	2,300
Estimate of despatches by other steamers	-	-	-	-	10,000
TOTAL Maunds				-	2,10,650

I.
India.

18. This estimate is believed to be short of the mark. The Collector of Mirzapore reports that, "as far as he can ascertain, about 25,000 bales of cotton have been dispatched by steamer to Calcutta. This is about one-fourth of the amount that has been exported in native boats."

19. The exportation still goes on, but there is at present a lull, as the wharves and warehouses in Calcutta are said to be so overstocked with bales, that there is at present no space for more.

20. The transportation of cotton by steamer from the Upper Provinces is a thing quite unprecedented. The following memorandum, by Captain Bird, on the subject, will therefore prove interesting. It is dated the 9th October:—

steam shipment.

"Cotton was first shipped from Allahabad on the 9th of August last, and up to this date just two months, there have been dispatched by vessels of the—

	Bales.
India General - - - - -	1,390
By vessels of all other companies - - - - -	1,444
TOTAL Bales - - - - -	2,834
Averaging two maunds each - - - - -	5,668

arrivals from
August to October
th, 1862.

	Maunds.
During the same time there came by rail from Agra, 11,386 bales, weighing	22,567
By cart the arrivals have been small, and may be estimated at - - - - -	1,000
And by country boats - - - - -	5,000
TOTAL arrival in Maunds - - - - -	28,567

"This estimate is moderate, and probably within the mark, as the ghat manjee states that 25,000 maunds have left by country boat within the last two months.

cost of freight.

"All this cotton went in loose bales, and cost by steam freight three rupees, and by boat one rupee per maund.

"A loose bale of three maunds measures 42 cubic feet, and the same bale screwed measures 19 feet. The difference in freight is 100 per cent. either by steam or boat. The screwed cotton from Mirzapore is taken by steamer at Rs. 1. 8. per maund, and will probably soon be taken at one rupee; the same rate will rule at Allahabad.

cost of screwing.

"The cost of screwing at Mirzapore is Rs. 1. 10. per bale of three maunds, but as labour is rather dear at Allahabad, we may calculate on Rs. 1. 12. per bale as a fair rate; but this charge is compensated for by the following advantages: the person screwing cleans the cotton from sand and other impurities, provides gunnies and lashings, and sends the cotton to market in a much more saleable condition. The risk from fire, water, and pilfering, which last may be reckoned at 10 per cent., is reduced to a minimum, and by the most moderate estimate the shipper derives an advantage by screwing of one rupee per maund, whether the cotton be sent by cart or country boat, and Rs. 1. 8. per maund, if sent by steamer.

Mirzapore.

"From Mirzapore all cotton sent by steamer, and most of that sent by country boat, is screwed, and the shipments by steam have been quadruple of that from Allahabad. If I may judge by the quantity the vessels of the India General have taken, a considerable proportion of the cotton that comes down the Jumna and Ganges is screwed at Mirzapore, but if the same facilities were given at Allahabad, I see no reason why it should pass this station.

Ghazee pore.

"There are no screws at Ghazee pore, and no shipments by steamers."

21. Cotton first began to be conveyed by railway in May last; since that period, the amount thus carried from Agra to Allahabad has been as follows:—

	Maunds.
May - - - - -	1,191
June - - - - -	2,815
July - - - - -	4,020
August - - - - -	17,206
September - - - - -	12,320
TOTAL in Five Months - - - - -	37,552

22. But the want of screws is greatly felt both by the railway authorities and the private trades. About 45 maunds is the greatest quantity that can be packed in one truck, and a truck cannot be run from Agra at a lower cost than from 30 to 35 rupees; this is at the rate of about a rupee per cwt. for 280 miles; so that the carriage of cotton barely pays in its unscrewed state.

23. The same difficulty has also been experienced in shipping unscrewed cotton by the Ganges canal, as the boats can only be partially laden, or they come in contact with the low arched bridges of the canal. The cotton which has been transported in the loose unscrewed bales to Calcutta has likewise suffered greatly from exposure to the dust storms of the hot winds, and saturation from wet during the rains.

24. It is, therefore, with much satisfaction that the Board have received the intimation conveyed in your Letter No. 3856A, dated the 10th September, that the Government have authorised the construction of a cotton press to be placed at one of the falls of the Ganges canal, in the Upper Doab, and there worked by water power.

25. It must, however, be borne in mind that the smaller class of speculators in these provinces could not make use of screws, because "screwed cotton," as Mr. Hogg writes from Mirzapore, "would only be received from well-known dealers, as cheating, by the mixture of inferior cotton, is easier in this case." Seed and impurities screwed with the cotton would also permanently injure the quality. The operation must be undertaken by some well-known parties, whose name would be a sufficient guarantee to the quality. The Board would, therefore, suggest that it would be advisable to plant the screw not, as proposed by Colonel Turnbull, in the Meerut district, but as near as possible to Allygurh, Hatrass, or some such leading cotton mart, where the largest traders are to be found.

26. The Board are glad to learn that Captain Bird has ordered three cotton screws to be established here at the Jumna Ghât, and that Mr. Palmer is about to do the same at Agra.*

27. At Mirzapore there are five screws, of which four belong to European merchants, and one to a native dealer; the latter is used by such other native merchants as occasionally screw their cotton, but the most of the bales sent by the native firms are unscrewed.

28. In furnishing their returns a few remarks of interest have been made by one or two of the Collectors.

29. Mr. Palmer writes from Bijour:—"I have circulated in this district samples of American cotton, supplied by Messrs. Mosley and Hurst, the agents of the Cotton Supply Association, and I have also forwarded to them, on behalf of a wealthy and respectable merchant, two samples of Bijour-grown cotton, one very carefully cleaned, and the other in ordinary condition, requesting to know what price each would command if delivered at Calcutta. This year, if the sample of well-cleaned cotton (which surpasses their own samples in point of purity) be approved by Messrs. Mosley and Hurst, and command a fair price, a small consignment of it will be made, and next year, if desired, a very large amount will be secured."

30. Mr. W. A. Forbes, C.B., says, regarding Meerut:—"All the returns show a considerable increase in the quantity of land under cotton cultivation this year as compared with 1861-62, not so much as would, perhaps, be expected from the unprecedented rise in the price of cotton, but it must be remembered that Meerut is not a cotton-growing district; the staple products are decidedly sugar and grain; and in one particular tract near the estates of Mr. John Michel, indigo

* "Note.—The Collector of Meerut, writing on the 15th October, also reports that Mr. Michel is setting up a cotton screw on his estate, and it will be ready for work immediately. It is constructed after the latest and best principles. He hopes to get a canal cut and water power to work it by next season. In the meantime he is obliged to satisfy himself with manual labour or bullock power. Next season it will be available to the public. His press is established with his new indigo factory at a village called Mussoorie, and actually on the canal banks, so that when pressed all cotton can be shipped down straight to Cawnpore."

I.
India.

indigo is being freely sown to a considerable extent, under very favourable circumstances.

"There is also another reason operating against a very rapid extension of the area of cultivation, and that is, that the cultivation as yet does not greatly profit by the rise in price.

"There are two European agents at present resident in the district, and ready to buy from and pay the growers, but the majority of buyers are middlemen and bunniahs, who have the zemindars and cultivators in their power. Under these circumstances I consider the increase, as it stands, favourable, and, should the price continue at anything near the present mark, competition amongst the purchasers must tend to benefit the agriculturists, and induce them to grow more largely.

"Mr. John Michel, to whom Government has lately sold an estate in this district, has been using his utmost endeavours to encourage the cultivation of cotton, purchasing largely direct from the growers, making advances where necessary, and taking payment of balances in cotton at market rates.

"The late telegraphic news of a fall in the English market of 4 *d.* per lb. does not seem as yet to have had any very serious effect upon the price, but it must yet do so, for I know that one large buyer, Mr. Cohen of Meerut, has received orders to suspend his operations for the present in the market.

"Mr. Michel, in a memorandum to me on the subject, makes the following remarks, which are worthy of notice, as showing that a new set of speculators are showing themselves in the market, and I trust that, in the end, with advantageous results to the cultivators. He says:—'No advantage to cultivators, as all the crop was in the hands of the bunniahs months before. This will always be the case without a great change in the system of revenue collection. The bunniahs being all sold out (of cotton) now, and having the zemindars in their books, will let prices down on small sales, when the crop is in full swing, buy low, and hold up the market. Their only competitors, the Marwarree opium speculators, which trade being now only a moderate profit, is being relinquished for the safer and larger cotton trade; but these men, although scouring the district now in all directions on camels, are unknown, and therefore not trusted by the zemindars. This, with their long-established obligations to the bunniahs, compel them to sell sharp to meet the revenue demand.'

"The above quotation from Mr. Michel is given, not because I concur with some of his reasons, but as showing the novel spectacle of the famous opium-merchants from Bombay entering upon the cotton speculations in the North Western Provinces. At present, it is said their bills upon distant and unknown firms are looked upon with suspicion, although a bid of a lac is accepted without question in the Calcutta opium market. It would be curious to know how far these enterprising merchants are carrying their speculations.

"As will be seen from the abstracts of tehseeldars' reports in the column of remarks to the return, the prospects of the coming cotton crop are not considered bright. The long-continued and heavy rains have destroyed, it is said, nearly one-third of the yield, and the loss will be the more felt by the cultivators by reason of the greater acreage under cotton. But there are two considerations which give hope for future alleviation; the first is, that the amount of rain-fall may so far strengthen the plants as to increase the yield of second pickings considerably, and the other, that English speculators, with hard cash in their hands, may cause prices to rise.

31. The Collector of Mynpoory writes that "advances are freely given for cotton to be delivered at the rate of nine seers (uncleaned) per rupee."

32. Referring to Mr. Under Secretary Sandford's letter of the 9th instant, I am directed to say that a copy of this Report has been communicated to the secretary of the Chamber of Commerce direct, in order to save time.

I have, &c.

Sudder Board of Revenue, N. W. P.,
Allahabad, 18 October 1862.

G. H. M. Batlen,
Secretary.

(No. 913.)

I.
India.

From *G. H. M. Batten*, Esq., Secretary to the Sudder Board of Revenue, North Western Provinces, to *J. D. Sandford*, Esq., B.A., Officiating Secretary to the Government of the North Western Provinces; dated Allahabad, 19 December 1862.

Sir,

As promised in para. 15 of my address, No. 771, dated the 18th October last, I have now the honour, by direction of the Sudder Board of Revenue, North Western Provinces, to submit a report upon the yield of the present cotton crop.

Revenue—Present,
W. Muir, Esquire,
Senior Member.

2. In the districts north of Meerut, it was about one-fourth below the average. Further down the crop was better, the loss being about a tenth, or at most an eighth; this applies to Meerut, Boolundshuhur, and Allyghur. Throughout the Lower Doab the out-turn has been fair, in some places even above the average.

3. Upon the whole, the expectations expressed in paragraph 14 of the Board's last address have been fully realised in respect of the districts lying to the north of the Jumna; and the increased area, then reported as having been sown with cotton, may, in respect of that tract of country, be held to indicate the degree in which the supply for the present year has increased. The quality, however, will probably be found inferior, since, as before explained, the first pickings, which are the finest, were to a great extent lost.

4. The Board regret that they have a much more unfavourable report to give of the produce in the districts south of the Jumna. In Muttra and Agra, which contain an area under cotton of nearly 200,000 acres, the failure has been lamentably great. Mr. H. D. Robertson states that, in the former district, "not half the usual quantity per acre has been secured, and that of a very inferior quality."

5. Similarly in Jaloun, Major Turner estimates the yield per acre this year to be only 11 or 12 seers, instead of 30. In Jhansie, where the crop is reported somewhat better, the loss is supposed to be about 25 per cent. Further east, again, in the direction of Banda, the out-turn is probably not much above 50 per cent. of the average yield.

6. The Board fear, from the reports they have received, that in Gwalior and the independent states of Bundelkhund, the crop has likewise been much below the average.

7. As regards price, the market rates per maund have varied during the last two months from 14 rupees in the Western districts to above 21 in the Eastern. The following Table will show how great the fluctuations have been in the chief markets:—

		Rate per Maund.					
		31st October.			30th November.		
		Rs. a. p.			Rs. a. p.		
Meerut	- - -	14	8	9	- - -	13	4 6
Allyghur	- - -	14	8	-	- - -	14	12 -
Agra	- - -	18	-	-	- - -	15	- -
Furruckabad	- - -	21	-	-	- - -	14	8 -
Mirzapore	- - -	16	-	-	- - -	16	- -
Ghazeepore	- - -	21	4	-	- - -	21	4 -

8. The exportation of cotton from these provinces continues unabated; every effort is strained by the speculators to carry the present crops to Calcutta at the earliest moment. Carriage of every description is pressed into the traffic; the roads are thronged by carts laden with cotton destined for Calcutta, or some of the intermediate stations. To such an extent, indeed, has capital been invested, and carriage engaged in the trade, that customary branches of merchandise have been neglected, and the transport of salt eastward interfered with. The salt revenue has lately received an unexpected check, not unreasonably attributed to this cause.

I.
India.

9. The cotton trade is also beginning to take unexpected routes. The senior member was startled by meeting on the Grand Trunk Road a line of carts laden with perhaps 500 maunds of cotton moving westwards from Allygurh, and bound for Amritsur. It appears that this is the first occasion on which cotton has been consigned from these provinces to the Punjaub for many years, and it is now carried by that route with the view of eventual exportation from Kurrachee. From one mart, Hatrass, it has been reported that about 12,000 maunds have already been despatched to Puttiala and Amritsur, as against 14,000 for Mirzapore. The route must therefore have been found a promising one.

10. Mr. Muir was also surprised by meeting on the Grand Trunk Road a long string of camels, each bearing two bales, or six maunds of cotton, and bound for Indore. Agents from Bombay have been busy in Agra and the adjoining districts making cotton investments, and a considerable amount is believed to be now taking this direction, attracted no doubt by that portion of the railway already constructed from Bombay towards Central India.

11. The following rates of carriage from Hatrass will show the comparative cost of the various routes :—

				<i>Rs. a. p.</i>	
Hatrass to Amritsur	-	-	-	1 - -	per maund.
„ „ Puttiala	-	-	-	13 4	„
„ „ Mirzapore	-	-	-	10 8	„
„ „ Calcutta	-	-	-	2 5 4	„

But the pressure of the present demand and the great competition for carriage, are no doubt raising the cost daily above these rates.

12. It is satisfactory to find that the despatches from Agra by the railway are on the increase. Since September the figures are as follows :—

October	-	-	-	-	Maunds	20,950
November	-	-	-	-	„	45,433
December, 1st week	-	-	-	-	„	8,439
						74,822

To which if we add the quantity reported in my last letter, we have 1,12,500 maunds (above 80,000 cwts.) in about half a year.

This is independent of the large and constant traffic by country boats and carts.

13. During the last two months about 30,000 maunds are reported by Captain Bird to have been shipped for Calcutta by steamer, and the remainder by country boats; but the demand for freight is at present so great that carts are now engaged to go all the way to Calcutta.

14. Palmer & Company have commenced working their screws at Cawnpore, and are reported to be preparing others at Agra; but Captain Bird states the number of screwed bales that have yet arrived here to be small. The increased value of cotton has, however, begun to show itself in the more secure and careful manner in which the bales are packed and covered.

15. Captain Bird's screws at the Jumna Ghat here will be in working order in a few weeks.

16. A copy of this address has been forwarded in continuation to the Chamber of Commerce.

I am, &c.
G. H. M. Batten, Secretary.

Sudder Board of Revenue, North West Provinces,
Allahabad, 19 December 1862.

— No. 76. —

I.
India

EXTRACT Bengal Revenue Consultations, December 1862.

EXTRACT LETTER from *J. E. Bruce*, Esq., Assistant Salt Agent, Chittagong, to *W. G. Young*, Esq., Officiating Commissioner of the Chittagong Division; dated October 1862.

23. I WILL, with the hope of its being acceptable, make remarks about cotton which I have grown in my garden on the top of my hill.

Remarks on the growth of cotton in Chittagong.

24. I received some seed from the collector (Mr. Ward) in November last, with instructions to sow in March. As that was a long time to wait, I thought the seed might spoil, so I at once sowed some on the 4th of November last, and in four days the seed had vegetated. They were allowed to grow in the seed-bed till the middle of December, when some were transplanted; of those transplanted 12 per cent. died, the rest lived. It is to be remarked that the soil is light, and no manure was applied before sowing, but some rotten horse-dung was used when the plants were transplanted. Not the least care was taken of them; either those transplanted or left in the seed-bed. They were not weeded nor dug round, nor even watered once for four and a half months, as I was away in the Mofussil.

25. In March last one of the seedlings in the bed produced two pods; but after that none of them looked healthy. However, the first rains in the end of March evidently put new life into them, and in the end of July they began to yield cotton. The plants shot up long and thin, and had from two to four stems each. I carefully collected the cotton, and I now send you a sample of it, with the seed.

26. By examining the seed you will see that there are three different kinds; one kind is covered entirely with a coat of green velvet down, another is partially covered with the same, but having a clean belt round the middle, and none are quite without the green down.

27. I have observed the clean seeds had the longest fibre, that entirely covered with the green down the shortest, and that partly clean and partly covered had fibre of intermediate length. This leads me to suppose that this last is a hybrid betwixt the other two.

28. I have no knowledge of the original cotton of which I received the seeds (it was stated to be New Orleans), therefore cannot say to what extent it has deteriorated; but as the sample was left entirely to nature, grown in high dry land, without watering, during the whole of the dry season, perhaps some conclusion may be drawn by experienced persons of the probable results of careful cultivation on suitable soil in the district.

29. I may further remark, that there was a garden established in Chittagong. So far as I can recollect, betwixt 1836 and 1840, it was on the ground near Mr. Ward's dwelling, on the left hand side of the road, where the old brick building is in ruins, and where rice is now growing.* This used to be called the Company's garden. I saw cotton plants growing in it, and I know it produced very large purple sugar-cane. These obtained great favour with the natives, and several applied for and obtained cuttings. These produced good cane, and I have seen them sold in the Buxees' Haut.

* Known as Budenath's Garden.

— No. 77. —

EXTRACT Bengal Revenue Consultations, December 1862.

EXTRACT LETTER from *C. B. Stewart*, Esq., to the Tea Committee of the Landholders' and Commercial Association, dated 10 November 1862.

Cotton.—The soil of Cachar is certainly suitable to the growth of cotton. I have seen the plant growing luxuriantly in all parts of the province. The cultivation is conducted in the most primitive manner by the Nagas, Hookies, and

Cultivation of Cotton in Cachar.

I.
India.

and Munneepoorees, and were it not that the supply of labour is so limited, I have no doubt a great deal might be done in the article. As it is, the wild hill-tribes make all their scanty clothing from the cotton produced by their own labour, and at the different hâts or bazaars, cotton is a regular article of barter for salt, iron, beads, and other commodities.

— No. 78. —

REVENUE DESPATCH to the Government of India, No. 3, dated
31 January 1863.

Para. 1. I HAVE to request that your Excellency in Council will take measures for causing the proper officers at the ports under the Presidency of Bengal to be instructed to prepare and forward, under cover to the Under Secretary of State for India, monthly statements in the accompanying form, showing the quantity and value of all cotton exported from such ports, and specifying the places to which the cotton has been shipped.

2. These statements should be prepared and transmitted as soon as possible after the close of each month.

Memo.—Similar instructions to the above were addressed to the Governments of Madras and Bombay.

STATEMENT of Cotton Shipped from the Port of _____, in the Presidency of _____,
, during the month of _____ 1863.

Quantity.	Value.	By what Ship.	To what Place.
<i>Maunds.</i>	<i>Rs.</i>		
1,000	30,000	Colombo - - -	Liverpool.
500	15,000	Mercury - - -	Hong Kong.
3,000	90,000	Hector - - -	Havre.
6,000	180,000	Lord Palmerston - -	London.

N.B.—The weight of the maund should be specified in pounds avoirdupois; or, if the return is made in bales, the weight of the bale in pounds should be given.

— II. —

M A D R A S.

— No. 1. —

REVENUE LETTER from Madras, dated 22 January (No. 9 of 1861).

II.
Madras.

1. We have the honour to forward the papers noted in the margin, showing the result of an experiment made personally by Mr. Shubrick, late Collector of Chingleput, in growing Egyptian cotton. The Chamber of Commerce, to whom the Board of Revenue forwarded a sample of the cotton produced, report that it is undoubtedly a valuable description, but that for want of any means of comparison with similar kinds, they are unable to state its market value in this country. The Board of Revenue have distributed the cotton seed forwarded by Mr. Shubrick to the Collectors of Cuddapah, Kurnool, Coimbatore and Tinnevely, for trial in their respective districts; the result, when reported, will also be submitted for your information.

Proceedings, 3 April 1860,	Nos. 26 & 27.
" 3 May "	" 40 & 41.
" 16 "	" 63 & 64.
" 4 Oct. "	" 74 & 75.

2. In their report on the district exhibitions held in 1859, the Board of Revenue state that this species of cotton was introduced and cultivated with success by Captain Templer in the district of Chingleput. They also notice, with reference to the exhibition of small quantities of it at Cuddalore, that from its length of staple, the ease with which the fibre is separated from the seed, and the circumstances of its being a perennial, this variety would appear to be likely to succeed well in India, and to be deserving of extensive encouragement.

3. For more detailed information on the subject, we beg to refer you to the reports of the local exhibition committees of the districts of Chingleput and South Arcot, contained in the report on the agricultural exhibitions in the provinces, in the year 1859, forming No. LXIV. of the Selections from the Records of the Madras Government.

Enclosure 1, in No. 1.

(In Cons. 3 March 1860, No. 1013.)

From *C. J. Shubrick, Esq.*, Collector of Chingleput, dated Saidapet, 2 March 1860 (No. 62).

THINKING the Board might take an interest in the matter, I do myself the honour of sending them about 2 lbs. weight of clean picked Egyptian cotton grown from seed planted by me in the Roshan Baugh as an experiment, together with a few pods or balls of cotton still containing the seed. The seed was obtained by me from Captain Templer, of Chingleput, who procured it, he told me, from a French gentleman at Pondicherry. Having seen a specimen of the cotton grown by Captain Templer, I was desirous of trying it on a small scale, with a view to seeing if it would succeed, and become a profitable crop to the ryot. Cotton at present, whether exotic or indigenous, is not grown in the district. I accordingly chose a small piece of vacant ground, and, after ploughing, sowed 280 seeds at eight feet apart. This was on the 7th January 1859, unfortunately, a wrong period of the year for sowing. The seeds, however, all came up, and I watered the young plants first twice, then once a week, and latterly once in 10 days till they were about two months old, when I left it off. At four months old they were beautiful plants to look at, most of them five feet high, and as much in diameter, covered with leaves, but yielding little or no cotton. The plants were, in fact, too luxuriant of leaves and wood. About August 1859, I cut all the plants down to two feet from the ground, leaving nothing but their stems standing. In a short time they budded out new leaves,

II.
Madras.

and began to produce pods during the monsoon, which, however, did not ripen or yield cotton, as they were injured by the heavy rains. From the commencement of the present year, however, the trees have been yielding abundantly, and I have now about 9 lbs. of clean picked cotton in my possession. The trees are scanty of leaves, very different to their appearance last year, and ought to go on producing cotton till nearly the end of May.

2. This Egyptian cotton plant seems to be very hardy, and able to withstand the effects of heat. It certainly does not require watering if planted at the proper season, which, in the Carnatic, would be towards the end of September. Having a tap root penetrating between two and three feet into the ground, it finds all the moisture it requires. It requires, however, sun and air; the trees, therefore, should not be planted too near to each other, or in the shade. All my finest trees are exposed to the sun, those under the shade of a hedge are inferior.

3. I beg to enclose half a dozen printed copies of instructions for sowing, which I have published in Tamil, and 2 lbs. of seed, if the Board think it worth distributing in other districts on the coast. The Board will perceive that the tree yields two crops every year during its continuance of five years, and that it requires to be cut down twice every year, in June and December.

Enclosure 1.

Six printed Tamil copies.

Enclosure 2, in No. 1.

(No. 26.)

READ the following Proceedings of the Board of Revenue, dated 9 March 1860
(No. 1214).

* See page 253.

Read Letter from the Collector of Chingleput, dated* 2 March 1860 (No. 62), reporting the Results of an Experiment made in growing Egyptian Cotton.

(In Cons. 3 March 1860, No. 1013.)

THE Board beg to thank Mr. Shubrick for this account of his interesting and successful experiment, which in its results is confirmatory of the favourable opinion which the Board have been led to form of this species of cotton for Indian cultivation from the experiments made by Captain Templer, and also in the South Arcot District.

2. They request that Mr. Shubrick will arrange to keep them informed of the out-turn of the whole year's crop, and to supply them with full statistical information as to the extent of ground occupied and required, and the cost of the cleaned cotton, including expenses of planting, picking, cleaning, and a fair allowance for rent of land occupied.

3. The Chamber of Commerce, to whom half of the cleaned cotton received from the Collector will be forwarded with copy of his letter, will be requested to favour the Board with their opinion of its value in the market for export.

4. The rest of the cotton, with the seed in pods and a few cleaned seeds, will be similarly sent to the Agri-Horticultural Society, and the remainder of the seeds will be distributed among the Collectors of Cuddapah, Bellary, Kurnool, Coimbatore, and Tinnevely, with a request that they will try it in their districts, and report the result.

5. Copies of the Collector's report will be circulated to all Collectors, whose attention will be drawn to the peculiar value of this species of cotton in this country, derived from its comparative indifference to heat, and independence of surface irrigation:

W. Hudleston, Sub-Secretary.

Enclosure 3, in No. 1.

(No. 27.)

ORDER thereon, 3 April 1860 (No. 515).

1. THE Governor in Council has read with much interest the account given by Mr. Shubrick of his experiment in growing Egyptian cotton.

2. It does not appear whether the product is commonly known in this Presidency. Those Collectors to whom seed has now been distributed should report, after sufficient time has elapsed, the result of the trial.

3. The

3. The Board might with advantage communicate with the Conservator of Forests on the subject.

4. Government await the information asked for in para. 3 of the Board's Proceedings, and also that referred to in para. 2.

5. Adverting to para. 1 of the Board's Proceedings, an account is requested of any experiments which may have been made in the culture of this cotton. The Records of Government do not show that any report of the kind has been as yet submitted.

C. G. Master,
Deputy Secretary to Government.

Enclosure 4, in No. 1.

(No. 40.)

READ the following Proceedings of the Board of Revenue, dated 13 April 1860 (No. 1778).

Read the following Letter from *H. Nelson*, Esq., Chairman of the Chamber of Commerce, to *J. D. Sim*, Esq., Secretary to the Board of Revenue, Fort St. George, dated Madras, 2 April 1860.

I HAVE the honour, by desire of the Chamber of Commerce, to acknowledge receipt of an extract from your Board's Proceedings, dated 9th March, forwarding copy of a letter from the Collector of Chingleput, reporting the results of an experiment made by him in growing Egyptian cotton, together with a sample of the cleaned produce, and requesting the Chamber to favour your Board with their opinion of its value in the market for export.

2. The Chamber considers the sample excellent in its original colour, but much stained in picking; the staple is strong, but not of much length. It is undoubtedly a valuable description of cotton, but for want of any means of comparison with similar kinds, the Chamber is unable to quote its market value in this country.

3. Mr. Shubrick's exertions in carrying out this experiment are deserving of acknowledgment on the part of the Chamber, and I am desired to request your Board to convey its thanks to him accordingly.

Enclosure 5, in No. 1.

ORDERED, that a copy of the above letter be submitted for the information of Government, with reference to para. 4 of their Order, dated 3d instant (No. 515). A copy will also be forwarded to Mr. Shubrick, with the Order of Government above referred to. In Con., 4 April 1860, No. 1534.

J. D. Sim, Secretary.

(No. 41.)

ORDER thereon, 3 May 1860 (No. 706).

Ordered to be recorded.

J. D. Bourdillon,
Secretary to Government.

Enclosure 6, in No. 1.

(No. 63.)

READ the following Letter from *W. Hudleston*, Esq., Sub-Secretary to the Board of Revenue, to *J. D. Bourdillon*, Esq., Secretary to Government, Revenue Department; dated 23 April 1860 (No. 1977).

WITH reference to paragraph 5 of the Government Proceedings, dated 3d April 1860, No. 515, Revenue Department, on the experiment in growing Egyptian cotton made in Chingleput by Mr. Shubrick, I am directed by the Board to request attention to paragraphs 47 and 51 of their Report, dated 1st September 1859, on the district exhibitions of that year, noticing the specimens of Egyptian cotton of local growth exhibited in Chingleput and South Arcot, and to the Reports from those districts which were submitted with the Board's General Report. In Con., 4 April 1860, No. 1534.

II.
Madras.

(No. 64.)

ORDER thereon, 16 May 1860 (No. 783).

Ordered to be recorded.

C. G. Master,
Deputy Secretary to Government.

Enclosure 7, in No. 1.

(No. 74.)

READ the following Proceedings of the Board of Revenue; dated 20 September 1860
(No. 4271).

Read the following Letter from *B. Cuntiffe*, Esq., Collector of Madras, to *J. D. Sim*, Esq., Secretary to the Board of Revenue, Fort St. George; dated Sydapet, 11 July 1860 (No. 249).

Sir,

1. I REGRET that I am unable to afford the Board the information called for in paragraph 2 of their Proceedings, 9th March 1860, No. 1214, and Circular No. 1978, with the exception that the crop of cotton for the year appears to have been 15 lbs., upon C. 0, A. 6, C. 8 cultivated, and about 10½ lbs. of seed.

2. Mr. Shubrick superintended the culture in person, and there is nothing officially recorded regarding its expenditure, nor can any of the office give me information on the subject.

3. Two gardeners were entertained to look after the Roshan Bhag generally, and these men, at Mr. Shubrick's direction, were employed in bringing the cotton plants to maturity.

4. On one all-important point I fear that Mr. Shubrick was misinformed. He has reported to the Board that he watered the plants first twice, and then once a week, and then once in 10 days, and that after two months he ceased watering at all; whereas one of the two gardeners above-mentioned, the other having left this neighbourhood, now declares that he watered the plants for four months, then ceased for three months, when the shrubs looking sickly, he recommenced watering, and irrigated them to the last about once in 10 days. That for the sake of experiment, during the period the plants were not watered, he continued to water two shrubs, which looked healthy throughout. A peon in general charge of the garden confirms this statement in the main, and states that for four months Mr. Shubrick had a man in his own pay to look after the plants.

5. If the present plants are to be kept up, it will be necessary to employ a man of 4 rupees monthly for that purpose, who will assist the two gardeners in charge of the garden; and on this point, and also as to the disposal of the remaining 13 lbs. of clean cotton and 5½ lbs. of seed, I request the instructions of the Board.

1. The Collector will please to forward the cleaned cotton to the chairman of the Chamber of Commerce, and the cotton seed to the committee of the Agri-Horticultural Society, to both of whom copy of the above letter will be communicated, in continuation of the Board's Proceedings of 9th March 1860, No. 1214.

2. Copy will also be furnished to Government and to all Collectors, to whom the Board's former Proceedings were sent with Mr. Shubrick's letter.

3. The Board do not consider it necessary to prolong the experiment at the Roshan Bhag as a public measure.

(No. 75.)

ORDER thereon, 4 October 1860 (No. 1788).

Ordered to be recorded.

J. D. Bourdillon,
Secretary to Government.

— No. 2. —

REVENUE DESPATCH to Madras (No. 32) ; dated 16 May 1861.

Para. 1. THE letter from your Government (No. 9) of the 22d of January last, has been under my consideration in Council ; and has been forwarded for information to the Manchester Cotton Supply Association.

2. I approve of the steps which you took to make the information as to the quality and growth of Egyptian cotton generally known, and am glad to find that the introduction of this variety seems likely to be successful in the Chingleput district.

C. Wood.

— No. 3. —

(No. 508.)

LETTER from *B. Cunliffe*, Esq., Collector of Madras, to *J. D. Sim*, Esq., Secretary to the Board of Revenue, Chepauk ; dated Saidapet, 6 April 1861 (No. 90).

Sir,

1. I HAVE the honour to forward, for submission to Government, if the Board approve, copy of a letter together with original enclosure from Captain Templer at Chingleput, on the subject of the cultivation of Egyptian cotton, which by his account has been taken up in a slight degree by certain ryots in the neighbourhood of that town.

2. An experiment of the same kind by Mr. Shubrick in the Rosham Bhag was discussed in the letters noted marginally.

3. Further than advising Captain Templer to impound cattle found trespassing on his land at Vendalur, I fear that nothing can be done to render him assistance, though I will write to the Monigar on the subject, as Captain Templer's endeavours to extend the growth of the cotton deserve every encouragement.

To Board, 2 March 1860, No. 62.
From Board, 9 March 1860, No. 1214.
From Board, 23 April 1860, No. 1973.
To Board, 11 July 1860, No. 249.
From Board, 20 Sept. 1860, No. 4271.

4. Nothing is said in his letter on the point of the crop requiring irrigation, a question which, the Board will remember, I thought it right to bring to their notice, and from the Rotham Bhag experiment to decide in the affirmative. Captain Templer himself told me subsequently that the plants, from which his exhibition cotton was obtained, were watered every other day. The trial, however, which he proposes to make will settle that matter satisfactorily.

Enclosure in No. 3.

From Captain *F. Templer*, European Veterans, to *B. Cunliffe*, Esq., Collector of Madras ; dated Chingleput, 1 April 1861.

Sir,

1. As some notice was taken of the specimen of Egyptian* cotton grown by me in the Chingleput district from Cairo seed ; and as I have been asked by Doctor Montgomery to give some account of the plant (information which, from my slight knowledge of its culture, I am myself unable to furnish), perhaps the accompanying extract from the Evening Mail, dated 21st January to 23d January 1861, sent me by a friend, to whom I forwarded some of the pods of the Egyptian cotton, may prove interesting.

* Exhibited through the Collector of Chingleput at the Madras Exhibition 1858, 100 rupees reward.

2. In forwarding this extract, I have much pleasure in being able to state that the natives of the district are commencing to cultivate in small quantities.

3. Assistant surgeon Shortt, who, as well as myself, has visited the topes in which this cotton is cultivated, says, in a letter to the Madras Times, dated 27th March 1861.—

“There are in Chingleput 10 or 12 betel gardens, each on an average containing upwards of 500 plants, so that within an area of two miles there are at present from 5,000 to 6,000 cotton plants growing in health and vigour.”

4. These trees are the produce of seed which I, two years ago, freely distributed.

II.
Madras.

5. The seed was given me by Monsieur Brün, of Pondicherri, who got it direct from Cairo.

6. At Vendalur, in this district, I planted upwards of 200 trees on trial, all of which were in my absence destroyed by village cattle. This prevented my extending the cultivation, as I had gone to some expense; and was afraid to risk money and labour on what, under the circumstances, was likely to prove a fruitless attempt.

7. Seeing, however, that there is some little interest taken in the cultivation by the native cultivators, I intend making another trial, planting three or four caronies, watering one portion well, another portion moderately, giving little or no assistance to a third.

8. All shall be planted in natural soil, free from manure.

9. From the quality of plants now thriving in the district I hope to succeed; and as there is, at some distant period, a fair chance of the cotton becoming an article of commerce, I trust you will, with all respect, lay this my letter before Government, together with Evening Mail extract attached, and in so doing I trust that Vendalur villagers may be instructed to keep their cattle off the ground, and in every manner to respect the property more than they have done.

10. Next year I hope to be enabled to report favourably.

11. I will distribute seed to the cultivators round Vendalur, and endeavour to persuade them to make a trial.

B. Cunliffe, Collector.

— No. 4. —

LETTER from *E. G. R. Fane*, Esq., Collector of Vizagapatam, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Chepauk; dated 22 July 1861 (No. 768).

Sir,

1. I HAVE the honour to acknowledge the receipt of the Board's Circular Proceedings, dated 28th March 1861, No. 1635, forwarding a Resolution passed by the Governor General of India, regarding the supply of Indian cotton to England, for any suggestions I might wish to make on the subject.

2. In this district but little indigenous cotton is grown, and none of the raw material exported. During the last three years the average extent of land cultivated with cotton was 5,753 acres, at 250 lbs. the acre; the average yield per year is 14,38,250 lbs., or a little more than 642 tons. This quantity is not sufficient for local consumption; for considerable quantities of English cotton yarn and twist of various colours are almost every month imported from Calcutta and Madras. The following is a brief statement of the value of the yarns so imported during the last three years :—

	Value.
Official year 1857-58 - - - -	118,771
„ 1858-59 - - - -	217,110
„ 1859-60 - - - -	198,773
	534,654
Deduct re-exported - - -	68,869
Net local consumption - - -	465,785

3. Cleaned cotton to a considerable extent is also brought into this district from Rajahmundry; an approximate estimate of the value of the cotton so brought is not obtainable at present; but some idea may be formed of the quantity of cotton so brought into this district from other districts, from the fact that on an average of the last three years punjums (a cloth only made of indigenous cotton) to the value of 4,96,041 rupees have been annually manufactured in and exported from this district.

4. From the above, it will be observed that, under present circumstances, no cotton is likely to be exported to England. Something might perhaps be done towards increasing the production by offering all the waste and jungle lands in the

Dated 28 February
1861.

the Government taluq of Nursapatam* rent free for a certain term of years, on the condition that nothing but cotton was to be grown; but the amount of waste ground being so small, the efforts of Government in that respect in this district would affect but little the present urgent want; a better remedy than thus offering land rent free, though more expensive, would be, the immediate sanctioning of roads from this district to Jeypore, and the Nagpore district of Raipore. Much cotton I know is grown in this latter country, and the distance from the sea is not much, if at all, above 200 miles. Two good bullock roads, one by Galikondah and Jeypore, and the other by Rayaguddah and Nouringhy-pore to Raipore, would alone be a great boon, and I am sure bring cotton for export to this coast. Hereafter, if a brisk trade on them should spring up, a bandy road, lately pronounced by the engineers quite practicable, might be made from Ryevalasa, on the Galikondah road, to Jeypore, and so on to Raipore.

	Acres.
• Waste lands,	1,381
Jungle ditto	4,002
	5,763

5. One only other method for increasing the supply of cotton for export suggests itself to me, that is, the simultaneous forbidding by the Madras Government and Supreme Government of the exorbitant collections made by the various zemindars between the coast and the cotton-growing districts of Nagpore.

6. The zemindars who thus make their collections are the Jeypore and Pauchepenta in this district, the Bustac, Kalabundy, &c., in the Nagpore country, and others, names unknown to me, north of Kalabundy, and attached to the south-west frontier of Bengal. On any of the lines of road leading through these districts, a Binjari trader has to pay two and three rupees for each laden bullock as toll, the whole collection being illegal, but collected by the zemindars under the plea of keeping the roads in good repair (a thing never done). In spite of these difficulties, I have seen a good deal of cotton brought down by Binjaris; so I imagine that if all such obstacles were removed, a great increase in the quantity would take place.

P. S.—I beg to refer the Board to the last Calcutta Gazette, regarding the supply of cotton, &c., that might be expected from the Nagpore territories; the Raipore district mentioned above by me is there spoken of as producing a good deal of cotton, but as requiring outlet, such as those now recommended by me. The road to Jeypore is described in my annual report of Public Works to the Board of Revenue, dated 20th June 1861, No. 701.

1. ORDERED to be submitted for the consideration of Government.

2. The Board do not think that any real benefit would be derived from applying such a false stimulus to the production of cotton as would be afforded by giving land rent-free for that cultivation, when for every other kind of produce the assessment on the land must be paid; but they would beg leave to recommend to the favourable consideration of Government the Collector's suggestion for the opening up of the communications between the Raipore district of Nagpore and the coast, *via* Jeypore and Galikondah, and by the Ryagaddah and Nouringhy-pore route.

3. In his last report* on the roads of the district, Mr. Fane mentioned that with the assistance of the Sibbundies, he had opened up a good trace to within a few miles of Jeypore, but that their transfer to the police had stopped further operations.

* Dated 20 June 1861, No. 701.

4. There seems no reason to doubt that a comparatively small expenditure, judiciously laid out, would suffice to make good bullock tracks by lines that might subsequently be converted into cart roads, as the requirements of the trade demanded, and the improvement of the communications into this wild part of the country, is as desirable on political considerations as it is for the cotton trade, and for the return trade in salt.

5. The Board need do no more than request the attention of Government to the Collector's remarks on the exactions made by the Jeypore, Bustar and other zemindars from the Binjaris. These obstacles to the development of the trade of the country should be by all means removed.

W. Hudleston, Secretary.

II.
Madras.

— No. 5. —

(No. 353.)

ORDER thereon, 26 August 1861 (No. 1706).

1. THE Government concur in the opinion expressed by the Board of Revenue in paragraph 2 of these proceedings, as to the unadvisability of adopting the suggestion of the Collector of Vizagapatam, of giving land rent free for cotton cultivation.

2. The question of opening the roads alluded to in the same paragraph, and in the two following paragraphs, will be referred to the chief engineer for early report.

3. Paragraphs 5 and 6 of the Collector's letter will be brought to the notice of the Commissioner of Nagpore, with a request that he will take steps to put a stop to the levy of illegal tolls by the zemindars of Bustar, Kalabundy, and others north of the last-mentioned place, and attached to the south west frontier of Bengal, the names of which, the Collector states, are unknown to him.

4. As to the Jeypore and Panchapenta zemindars in Vizagapatam, the Board will require the Collector to state what he has done towards stopping such exactions.

J. D. Simi,
Secretary to Government.

— No. 6. —

(No. 120.)

LETTER from *E. B. Thomas, Esq.*, Collector of Coimbatore, to *T. Pycroft, Esq.*, Chief Secretary to Government, Fort Saint George; dated Ootacamund, 20 August 1861.

Sir,

1. As the subject is of public interest, and one on which all information, however slight, is useful, I take the liberty to offer a few remarks on cotton, the result of some years' observation and experience.

2. There is nothing in our chief cotton districts to hinder a large area of cotton cultivation; the soils fit for it are lightly taxed, with perfect freedom of cultivation, the tax being on the soil, not on the crop. A steady market at hand, with fair prices and permanent demand, would command any quantity of native cotton: its cleanliness and purity on reaching the market would depend much on European superintendence. The quantity of this sort of cotton might be almost unlimited. The quality is, I fear, a matter of more doubt. The native cotton, even the best, is short in fibre, strong, but not long; it is for the manufacturers at home to say if such cotton will suit their looms. I fear not; their machinery would have to be altered for working up the short fibre, and such cotton would only do for the coarse fabrics.

3. The question is, can foreign cotton, the American and other, be introduced? I think it can partially, but not generally; the fibre I suspect depends on climate as much as on soil and cultivation; the former is more difficult to com-

So far back as 1860, I observed, in writing to Government on Dr. Wight's cotton farm, "that, speaking from some years' experience and observation, I do not myself think that the New Orleans or American cotton can or ever will be grown extensively or profitably apart from the aid and influence either of the sea air, as in Tinneveli, or the extra moisture of the south-west monsoon."

mand than the latter. The foreign plant requires probably some moisture in the atmosphere and some saline air to produce the long fine staple. Our seaboard districts would probably answer best, not inland. The (black) "cotton soil," so called, does not suit the foreign seed; it thrives better on the red and sandy soils. Of these there are plenty, and a large area of foreign cotton might be grown, if the climate does not prevent; but this is India's opportunity, and full and fair trial should be made at once, and by Government perhaps at first; to some extent, private capital and enterprise will soon step in, if it can be shown that the required sort can be grown.

4. To

4. To prove and test this, Government should, and may, assist by importations of fresh seeds, and, by stimulating experiments in many localities, to test this point; not small garden experiments, but moderately large ones, say five or 10 acres each; if five acres of good cotton can be produced in any locality, much more can also be. Liberal prizes to stimulate private experiment may be safely and wisely given for 5, 10, 20 bales (not less) of good cotton. The microscope, without much skill or experience being necessary, will generally test its value, length of fibre being, I believe, the chief desideratum. Irrigation would not pay, nor (happily) does it seem required; it forces leaves only, not pods, on the cotton plant; like many other productions, the better foreign cottons may, no doubt, be acclimatised, if they do not succeed at once. With land abundant and lightly assessed, free labour, cheap rail, and good roads, India ought, at least, to share the cotton market with America.

II.
Madras.
—

I beg also to refer
to my letter to
Revenue Board
19 April 1861,
No. 78.

— No. 7. —

(No. 198.)

LETTER from *E. B. Thomas*, Esq., Collector of Coimbatore, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Chepauk; dated Ootacamund, 14 September 1861 (No. 200).

Sir,

THE Board are distributing foreign cotton seeds for trial in various districts. If it succeeds, and the ryots have a fair crop, it will still be thrown on their hands, as the produce will not suit the Indian, but only the English market; and though induced to grow at once, the ryot will, I fear, not repeat such experiment. It is for the consideration of the Board and Government whether some arrangements be not practicable, either by Government or some Manchester agency, to buy up all such produce at a fair remunerative price, somewhat above the native cotton, and ensure the experimenting ryot a market, or assuredly he will not continue to try the foreign kinds.

1. Ordered to be submitted to Government, with the Board's recommendation that it be communicated to the agent of the Manchester Cotton Association, now in the country.

2. The Board are decidedly of opinion that it is not desirable for Government to interfere in any way with the purchase of the cotton crop from the ryots. To do so would merely be to afford an artificial and unhealthy stimulus, which could not be maintained, and would eventually, by its re-action, repress rather than encourage the cultivation.

3. If the cultivation is remunerative, without dependence on Government aid, the ryot will assuredly prosecute it eagerly; and if otherwise, it is not desirable that an unremunerative species of cultivation should be propped up by what really would be a system of bounties for production.

(No. 199.)

ORDER thereon, 15 October 1861 (No. 1991).

THE Government concur in the remarks of the Board of Revenue, and will, as suggested by them in paragraph 1 of their proceedings, furnish copies of these papers to the agent of the Manchester Cotton Association now in the country, for such notice as he may deem necessary.

J. D. Sim,
Secretary to Government.

II.
Madras.

— No. 8. —

(No. 54.)

LETTER from *W. Hudleston*, Esq., Secretary to the Board of Revenue, to *G. R. R. Haywood*, Esq., Dharwar; dated Chepauk, 27 November 1861 (No. 6575).

Sir,

WITH reference to your

	Egyptian CottonSeed.		New Orleans.		Despatched.
	Mds.	lbs.	Mds.	lbs.	
1. Kishna -	10	0	-	-	16 October 1861.
2. Nellore -	-	-	2	0	30 July 1861.
3. Cuddapah -	2	0	-	-	2 October 1861.
4. Coimbatore -	22	10	26	22	3 and 26 Aug. 1861.
5. Tinnevely -	4	12	-	-	1 October 1861.

letter dated 4th November 1861, I am directed by the Board of Revenue to inform you, that a supply of New Orleans and Egyptian cotton seed has been distributed to the Collectors of the districts entered in the margin, on the dates and in the quantities specified. These seeds were received from the Honorary Secretary to the Madras Agri-Horticultural Society out of the supply forwarded by the Manchester Cotton Supply Association.

2. The Board cannot offer any opinion as to the price that the ryots would consider remunerative for cotton raised from these descriptions of seed, but they will request the Collector to institute inquiries on the point, and will let you know the result. The matter must, however, mainly depend upon the state of the market at the time. Two samples of Egyptian cotton grown in the Gaujam district in 1860, were lately pronounced by the Madras Chamber of Commerce to be worth, in London, from $6\frac{1}{2}d.$ to $7d.$ per pound.

3. The annexed statement* shows the price of native-grown cotton in each district of this Presidency for four years, viz., from 1857-58 to 1860-61.

4. I enclose copy of a circular that has been issued to the Collectors of the Kistna, Nellore, Cuddapah, Coimbatore, and Tinnevely districts. Their replies shall be communicated to you as soon as possible after receipt in this office.

5. The Board do not consider it to be at all the province of Government officers to collect produce for intending buyers, as you wish them to do; but they will submit copy of your letter, and of this reply, for the information of Government, and for such orders as they may think fit to pass on this subject.

Sent in MS.

Vide Resolution of
Governor of India,
18 February 1861.

— No. 9. —

(No. 342.)

LETTER from *J. I. Minchin*, Esq., Acting Collector of Kurnool, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Chepauk; dated 28 November 1861 (No. 135).

Sir,

1. As required in the memorandum of the sub-secretary, dated 21st instant, I have the honour to reply to the Board's circular (No. 1635), dated 28th March, regarding the supply of Indian cotton to England, although the subject has been so exhausted in official papers and the press, that I have no suggestions to offer worthy of the consideration of the Board.

2. Cotton of an inferior description is grown largely in this district, though, owing chiefly to the failure of rains at the time when most required, the cultivation fell about one-half in the last season below its average extent.

3. The present season having been favourable, and the price of cotton having risen from *Rs.* 2. 11. per maund in May last, to *Rs.* 3. 3. per maund, its present rate, there can be little question that the cultivation will this year reach, if it does not exceed its ordinary amount.

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4. The ryots are quick to see their own advantage, and there can be no doubt that a permanent increase in the price of cotton will cause a rapid increase in its cultivation, while such increase can be produced in no other possible manner.

5. There is nothing in the nature of the existing communications to prove any bar to the conveyance of cotton on bandies, during the dry months which follow the harvest. When the rain has set in by the end of May, all heavy transit between this district and Madras, by way of Kuddapah, is however impracticable for a week or 10 days after every heavy shower, as for that time a bandy cannot get through the heavy cotton soil, which extends for about 40 miles to the south of the village of Nandial.

6. The road over this tract of country is under construction, and I consider that its early metalling is of importance in every point of view.

7. The Irrigation and Canal Company will, in the course of time, construct their canal along this line, and, when completed to the coast, there can be no doubt that so bulky an article as cotton will be forwarded by no other channel to Madras.

8. I fear, however, that the channel will not be open to the coast for from five to seven years at earliest; and would therefore earnestly press on the metalling of the road for use during the interval.

ORDERED, that copy of the above letter be submitted for the information of Government, and communicated to the chief engineer, with reference to the Acting Collector's remarks on the necessity of metalling the road from Nandial, for a distance of some 40 miles towards the south.

(No. 343.)

ORDER thereon, 15 February 1862 (No. 333).

COMMUNICATED to the Department of Public Works, with reference to paragraphs 5 to 8 of the Acting Collector's letter to the Board of Revenue.

C. G. Master,
Deputy Secretary to Government.

— No. 10. —

READ the following Letter from *G. Thornhill, Esq.*, Collector of the Kistna District, to *W. Hudleston, Esq.*, Secretary to the Board of Revenue, Chepauk; dated Repalli, 17 February 1862 (No. 29).

Sir,

1. I HAVE the honour, with reference to the Board's proceedings (No. 1635), dated 28th March 1861, to enclose a memorandum of the state of the cotton-growing taluqs of this district.

2. I regret that this report should have been so long delayed, and I am sorry that even now I am not in possession of all the requisite information.

3. I am in expectation of a detailed report on the subject from the Sub-Collector, which will be submitted to the Board in due course. In the meantime, I beg to lay the accompanying brief memorandum before the Board.

II.
Madras.

MEMORANDUM.

1. THE principal part of the cotton produced in the Kistna district is grown in the táluqs of Palnad, Innakonda, Rajapett, Guntoor, and Krosur. The area of land employed in its culture is given in the margin.

Taluqs.	Extent of Land.	
	Fasli 1269.	Fasli 1270.
	<i>Acres.</i>	<i>Acres.</i>
1 Palnad -	57,140	57,166
1 Innakonda -	7,996	7,939
1 Rajapett -	13,925	13,531
1 Guntoor -	9,703	9,369
1 Krosur -	35,099	31,390

2. The cotton so produced is partly consumed in the district, but by far the greater portion of it is transported by land to the northern districts of Rajahmundry and Vizagapatam, where it is used by the native weavers ; but very little of it is exported by sea, and none is shipped direct for Europe.

3. The cotton which is picked in the dry season seldom is cleaned and packed before the setting in of the monsoon in June, and it cannot therefore be moved until the following December or January, as the roads are not passable until that time.

4. A portion of the crop is transported either on bandies or pack bullocks direct from the villages where it is grown, to the northern districts, *viâ* Bezoarah and Ellore, and a portion of it is carried by land to Amaravatee, a town on the bank of the Kistna, 20 miles above Bezoarah, whence it is transported by water to Bezoarah by the Kistna river, and into the Godavery district by the canal and the Collair lake.

5. That the extent of land cultivated would be largely increased to meet a greater demand, or a rise in price, cannot be doubted, as the soil suited to its cultivation is very widely spread over the whole of the táluqs above named.

6. The greater part of the cotton grown now is of the sort called "red cotton," which, I am given to understand, is not in demand for the European market.

7. The district was visited by an agent from one of the leading mercantile firms in Madras, with a view to ascertain its capabilities as a field for export, and all the information available in the office was imparted to the gentlemen in question ; but I have not heard that any subsequent action was taken in the matter.

8. *Increasing the Produce.*—As to increasing the produce, I do not think that any measure of Government will have any effect upon it. There is abundance of room for extension of cultivation, and merchants have only to send their agents into the country, to enter into agreement with the cultivators, and to show them that the cultivation will be profitable, to induce them to bring more land under cotton culture.

9. In the same manner it rests with the merchants to point out the kind of cotton that is required, and it also rests with them to make arrangements for the more speedy and effectual cleaning and packing of the crop.

10. At present the crop is picked in the month of February ; but as it is cleaned in the ryots' own houses, it is not ready for packing and transport before the rains set in, and the roads become impassable.

11. The difficulty may be overcome by the merchants setting up cleaning-machines of their own, and taking the cotton uncleaned from the ryots ; it would be a question whether it would be better for them to clean it on the spot, or to remove the cotton uncleaned to some point whence they could transport it at any season to the port of shipment ; such places would be Amaravatee and Bezoarah, at both of which places water carriage would be available to the coast throughout the monsoon, whence transport by land is almost impossible.

12. *Improvement of Communications.*—Before considering the means of improving the communications with the ports, it is necessary to show briefly the present state of the country in that respect.

13. From the accompanying rough sketch, it will be seen that the river Kistna flows round two of the chief cotton-growing táluqs. This river is navigable with difficulty during the rains as high as Mooktyala. Above that, the

the bed is so rocky that boats are never taken up it, and it is certainly not susceptible of improvement speedily enough to meet the wants of the present time.

II.
Madras.

14. Amaravatee is the highest point on the bank to which cotton could be bought with any profit; from thence to Bezoarah the river is navigable for about six months in the year.

15. From Bezoarah the canal is open to Akmaru, five miles from Masulipatam, and will, in a month or two, be open to the fort at Masulipatam. It is also possible for boats to reach Cocanada *via* the Collair lake, for six or seven months in the year, and the canal from Bezoarah to Ellore is also rapidly progressing.

16. With regard to the communication by land, the Tálucs are traversed by the high road from Hyderabad to Madras trunk road, No. 7, in a southerly direction, but the road does not lead to any of the ports of the district, and is, moreover, as bad as it can be.

17. There are no made roads from any part of the Tálucs in question, either to the river bank or to any port. The soil is for the most part black, and consequently the country tracts are impassable during the rains, but very fair during the dry season. Any attempt to make regular roads through the country, except at a great cost of time and money, would fail, and the only thing to be done is to remove the most serious obstacles in the lines, so as to make them fairly passable in the dry season.

18. I subjoin a list of the routes which might, I think, be advantageously so treated. They lead either to the Kistna or to some point on the trunk roads.

19. The Trunk Road, No. 6, high northern road, is in many parts so bad as to be little superior to the country tracts themselves. I would recommend the worst parts to be immediately put in order, especially that part between Guntoor, where the branch roads Nos. 2 and 3 join it at Bezoarah.

20. The chief ports in the district are Masulipatam and Nizampatam. Ipurpollem and Motupalli are of inferior importance. I give a list of the different approaches to them from the interior.

21. Masulipatam is approached by the canal from Bezoarah, and by the high road from Hyderabad; the latter passes through black soil and is unmetalled; it is, consequently, hardly passable in wet weather, and very bad in dry weather; it is bridged, and, as Government have recently sanctioned a maintenance allowance of 150 rupees a mile per annum, I do not think anything more need be done, as it runs parallel to the canal.

22. Nizampatam will hereafter be connected with Bezoarah by a canal, but two locks are still incomplete. There is a bad road to Guntoor, partially bridged, on which small sums from local funds are spent; but it requires much to make it even decently good, and I recommend sanction for completing it.

23. Ipurpollem has no approach; a branch from the Guntoor and Nizampatam road at Ponnur to Bapatta is being constructed from local funds, which will be of some assistance to it. It is not a port of so much importance as the other two, and Motupalli is of the same class as the Ipurpollem. A road from Incollen in Trunk Road, No. 6, to Chinna Ganjam salt pans has recently been repaired, and is being bridged, which will aid the approach to Motupalli. The only other point which I think requires attention is the port of Nizampatam. It is a favourite port with the native shipping; the backwater is deep and extensive, and the anchorage, I believe, good and not too distant from the shore; and the bay is much sheltered on the north and east. The water in the bar is, however, shallow, and I am not competent to state if it be capable of improvement.

24. The place is so little frequented by European vessels as to be hardly known. It should, however, I think, be examined, and reported on by some person qualified for the task. Captain Maiden, the master attendant at Masulipatam, might undertake the duty as a preliminary measure.

1. Ordered to be submitted to Government, with the Board's recommendation that the subject of the roads specified by the Collector be referred to the

II.
Madras.

Public Works Department for full consideration, and that the Superintendent of Marine be requested to investigate and report on the state and capabilities of the Nizampatam port, in view to its improvement.

2. It is to be regretted that the Collector has so long delayed to bring this state of the roads to the notice of Government.

Enclosure in No. 10.

(No. 56.)

ORDER thereon, 4 March 1862 (No. 478).

1. THE Collector's report will be communicated to the Department Public Works for the issue of orders regarding the communications and ports.

2. The Collector ought to have reported the state of the roads at an earlier date, in order that measures might have been adopted for their improvement. The prosperity of a district depends so materially on its communications that their condition should always engage the Collector's prominent attention.

J. D. Sim,
Secretary to Government.

— No. 11. —

REVENUE DESPATCH to Madras (No. 7), dated 2 May 1862.

Para. i. I ENCLOSE herewith twenty (20) printed copies of a memorandum by Mr. Clements R. Markham, of the Revenue Department of this office, who lately visited certain districts of your presidency in charge of cinchona plants, on the possibility and advantage of introducing the cotton plant of Peru into certain districts of Madras, which appeared to him well suited to the cultivation of this species of cotton.

2. Mr. Markham has also taken measures for obtaining a supply of seeds from Peru, which he expects to receive in a few days, and which will be immediately transmitted to you.

3. I think it very desirable that your Excellency in Council should make arrangements for giving this experiment a fair trial in the districts mentioned by Mr. Markham as likely to possess the same conditions of climate as the coast of Peru. Full details of these conditions are given in the memorandum which should be distributed among the Collectors of those districts, and such other persons as are likely to take an interest in the experiment, the results of which you will not fail to report to me.

Enclosure 1, in No. 11.

MEMORANDUM on the Indigenous Cotton Plant of the Coast of Peru, and on the proposed Introduction of its Cultivation into India.

WHILE travelling in the Coimbatore and Madura Collectories, in the autumn of 1860, I was struck with the resemblance of the climate, in many respects, to that of the coast valleys of Peru. This part of India appeared to me to be admirably adapted for the cultivation of the valuable species of cotton which is indigenous to the Peruvian coast valleys, while it seemed unlikely that North American cotton could ever be extensively raised to advantage in so dry a climate.

2. North American cotton will not thrive in a very dry climate, as a certain amount of moisture in the atmosphere, throughout the year, appears to be an essential condition for its successful growth. This kind of cotton has a very different constitution from the Indian; it cannot stand so much drought, and the conditions required for its culture are an equable and moderate supply of moisture through all the stages of its growth. These conditions are fulfilled in the Dharwar country, which retains a considerable quantity of moisture in the atmosphere during the cold season, when other parts of the Bombay Presidency are intensely dry; and there the North American cottons succeed perfectly; but they will not yield remunerative crops where this is not the case. The indigenous plant,
on

on the other hand, is able to endure the dry season well, being a native of the arid country of Sind, and part of the Punjab.

3. It is very important, then, to introduce a cotton with a longer staple than that of the indigenous plant of India, and therefore better suited to the demands of Manchester, which will thrive in the exceedingly dry climate of the Collectorates on the eastern side of the Madras Presidency. I have, therefore, made arrangements to obtain supplies of cotton seeds from the driest part of the coast region of Peru, for introduction into India. The staple of this Peruvian cotton is longer than that of "Uplands," Pernambuco, and much longer than any indigenous Indian cotton, though shorter, of course, than Egyptian or "Sea Island." The respective lengths of the staples of different kinds of cotton, compared with Peruvian, are as follow:—

SPECIES OF COTTON.							MINIMUM.	MAXIMUM.	MEAN.
							<i>Inches.</i>	<i>Inches.</i>	<i>Inches.</i>
"Sea Island"	-	-	-	-	-	-	1.41	1.80	1.61
Egyptian	-	-	-	-	-	-	1.30	1.52	1.41
Peruvian	-	-	-	-	-	-	1.10	1.50	1.30
Brazilian	-	-	-	-	-	-	1.03	1.31	1.17
New Orleans or "Uplands"	-	-	-	-	-	-	0.88	1.16	1.02
"Uplands" grown in India	-	-	-	-	-	-	0.95	1.21	1.08
Indigenous Indian cotton	-	-	-	-	-	-	0.77	1.02	0.89

4. Dr. Forbes Watson informs me that the real Peruvian cotton, from the coast valleys, has not yet been introduced into India, and he is of opinion that the seeds of that kind are well worth a trial in the dry parts of Southern India. The so-called Peruvian cotton, which has been tried (*Gossypium Peruvianum*), as mentioned in Dr. Royle's work, was procured from the Brazil, and is quite a different kind, growing in a very moist climate, and under conditions distinct from those of the real Peruvian cotton.

5. I propose in this memorandum to give some account of the Peruvian cotton, and of the climate of its native coast valleys; and afterwards to compare that climate with those of the Collectorates through which I travelled, on the eastern side of the Madras Presidency.

6. The Peruvian cotton plant is indigenous and perennial, and was cultivated by the subjects of the Incas in the coast valleys, long before the discovery of Peru by the Spaniards. They irrigated their cotton fields by means of channels conducted from the numerous lakes in the Andes, picked and cleaned the cotton, and wove it into cloths. The Jesuit Acosta, who wrote shortly after the Spanish conquest, says, that "cotton growth in hot soil, and there is great store in the valleys on the sea coast of Peru." The ancient Peruvians used a machine for cleaning their cotton, which closely resembled the Indian *churka*. It consisted of two rollers, about the thickness of a finger, with handles at opposite ends, which turned them different ways. The wool was pinched through by degrees, and, as the seeds could not pass between the rollers, they were stripped off and dropped outside. The same machine was, according to Frezier, used by the Brazilians in 1720. Fifty years ago, Stevenson tells us that, at Casma, on the Peruvian coast, an improved method of separating the seeds had been introduced. It consisted of a large hollow cylinder, put in motion by two mules, with straps passing round it, and round a small wheel attached to a fluted steel cylinder a quarter of an inch in diameter, and a second cylinder was placed horizontally and in contact with the first. The cylinders were turned different ways, the second one being worked by hand. The wool was dragged in between them, and the seeds were thus stripped and thrown off.

7. The long strip of coast line between the Andes and the Pacific Ocean, which extends from the River Loa, in 21° 48' S., to the River Tumbez, in 3° 35' S., a distance of 1,620 miles, consists of a sandy desert, intersected by chains of rocky, barren hills, and traversed by sixty rivers and streams, with as many fertile valleys on their banks. This region is bounded inland by the cordillera of the Andes, and varies from nine to sixty miles in breadth. The coast valleys, thus surrounded by sandy deserts, which extend from the foot of the Andes to the shores of the Pacific, are the native habitat of the Peruvian cotton. The rivers generally rising in small alpine lakes in the mountains, force their way through narrow gorges into the coast plains, and form valleys filled with luxuriant vegetation, the homes of the olive, the vine, the sugar cane, the cotton plant, and every kind of fruit.

8. The climate of this region is very peculiar; rain is unknown, and the northern part especially is exposed to a long season of excessive dryness. The summer, or dry season, on the Peruvian coast extends from November to May, when it is exceedingly hot, and the rays of the sun are reflected back from the sand with scorching power. During this period, many of the coast rivers are dried up during several months, though the larger ones have a perennial supply of water. The mean temperature is about 85 degrees Fahrenheit, rising as high as 96 degrees, and occasionally falling to 80 degrees in the val-

II. Madras.

leys; but in the sandy deserts, in places where high hills closely overhang the plains, the thermometer occasionally falls very low during the night, the rush of cold air from the upper region being in proportion to the degree of radiation on the plains, and the force with which the sun's rays have struck on the scorched ground during the day.

9. The winter, or moist season, commences in May and lasts until November. In the middle of May a veil of mist begins to spread over sea and shore, and the mornings are damp and hazy; in June the thickness of the mist increases, sometimes amounting to drizzle, and continues until October. It never amounts to rain, but the moisture, being formed in the lower atmospheric region, falls on the ground in large drops, caused by the union of small bubbles of mist. These fogs are called *garuas*; they are formed at about nine in the morning, and are not dispersed until late in the afternoon. They are most prevalent in the southern and central part of the Peruvian coast, and when they set in, the *lomas*, or chains of hills bordering the desert near the sea shore, are carpeted with wild flowers; but in the north the *garuas* are very scanty, the climate is much drier, and it is for this reason that I have selected the province of Piura, in the northern part of the coast, as the district from which to procure supplies of cotton seeds for introduction into India.

10. The fertility of the coast valleys depends on the mountain rains for the supply of water in the rivers available for irrigation, and it is to be observed that the wet season of the Andes corresponds with the dry season on the coast. The prevailing wind for nine months in the year is from the south-west, and gentle southerly breezes prevail throughout the dry season.

11. Commencing from the south, the first great cotton district is in the province of Yca, in latitude 14 degrees S., although all the coast valleys are capable of cotton cultivation. According to M. de Castelnau, the total export of cotton from Peru in 1840 amounted to 353,400 lbs., of which 300,000 lbs. came from the province of Yca. In 1853 I visited the cotton-growing valleys of this province of Yca, Palpa, San Xavier, and Nasca. In the valley of Yca there were three mills for cleaning cotton, worked by water, and in that of San Xavier I stayed at two large thriving cotton estates, with good machinery for cleaning the cotton, worked by water and powerful screw presses. In the valleys of Nasca and Palpa there were country-made cleaning machines, like that described by Stevenson, but also worked by water-wheels. The rivers became very nearly dry in January, with the thermometer often at 88 degrees and 90 degrees, but the mean yearly range is from 65 degrees to 85 degrees. Don Domingo Elias, the great landed proprietor of Yca, exported, in 1853, about 120,000 lbs. of cotton from his own estates, and 280,000 lbs. more which he bought up at 10 to 14 dollars the cwt. from other small cultivators. Previous to my visit, the cotton was conveyed by mules to Port San Nicholas, which was a great distance from the estates, and where the landing was very bad. In January 1853 I, therefore, made a survey of another port 28 miles north of Cape Nasca, and only about 30 from the cotton estates, where the landing was better. I piloted an English barque into this new anchorage, and she was loaded with cotton, which was brought down by mules, each beast carrying two bales, weighing together 350 lbs. In the year 1860, the province of Yca yielded 800,000 lbs. of cotton.

12. North of Lima, are the cotton-producing provinces of Casma, Chiclayo, Fruxillo, and Lambayeque, where the soil is very sandy. In these provinces cotton cultivation has increased immensely during the last year or two, and has become a favourite speculation. In four districts of Lambayeque 600,000 cotton plants were put into the ground in 1860, and extensive tracts on neighbouring estates were prepared for cultivation. In the same year, the yield in the valley of Pacasmayu was 800,000 lbs. In the province of Chiclayo 700,000 plants were put in the ground in 1860, while land was prepared for raising cotton crops to a very large extent; and I understand that quantities of cotton from these provinces now arrive by every steamer at Panama, on their way to England. This part of the Peruvian coast enjoys an equable climate, with a mean temperature ranging from 70 degrees to 84 degrees Fahr.; but the fertility of the valleys depends entirely on the overflowing of the rivers, though their capabilities might be immensely increased, and the water supply rendered certain, by a comparatively small outlay.

13. We now come to the most northern province on the Peruvian coast, that of Piura, which deserves particular notice, as it is from this district that the cotton seeds will be sent, which it is proposed to transmit to India. All authorities, including Ulloa, Stevenson, Von Tschudi, and Dr. A. Smith, unite in describing the climate of the province of Piura as excessively dry and hot. Piura is in lat. 5° 11' S. During the summer, from November to May, the thermometer ranges from 80 degrees to 96 degrees, the sky is constantly clear, the atmosphere perfectly dry, and the glare from the sandy and stony soil excessive. If a piece of paper is put on the ground in the evening, it may be taken up in the morning and written on without any inconvenience, for it will be found to be quite dry. Owing to the brilliancy with which the celestial bodies shine on this part of the coast, it has become proverbial to say "as clear as the moon of Payta." During this season, however, the rains fall in the upper region of the Andes, and the two rivers of Piura and Chira are therefore full.

14. In the moist season, from May to November, the *garuas*, or mists, are much more scanty in the province of Piura than on any other part of the Peruvian coast, and there is

is very little dew, which, too, scarcely penetrates half an inch into the earth. The means of the thermometer during this season range from 70 to 81 degrees Fahr. This is the dry time in the Andes, the rivers become dry, and the inhabitants dig wells in their beds for water.

15. The cotton plant in the province of Piura is indigenous and perennial, lasting many years. The cultivation depends entirely on the extent of natural irrigation produced by the overflowing of the rivers of Piura and Chira, between November and May; and, where the sandy soil is thus irrigated, it is sufficiently fertile, but the process is confined to the lower lands of the valleys of those rivers. The cultivators use the seeds of the indigenous cotton plant, which are good, but they have never paid any attention to their selection or improvement, though they have introduced excellent machinery for ginning and pressing. For several years the floods of the rivers Piura and Chira have been only partial, and the yield of cotton entirely depends upon the amount of natural irrigation thus obtained. The largest production for one year from this province was 25,000 cwts. Mr. Scarlett states that in 1835 the export exceeded 20,000 cwts., and the ordinary yield used to be 10,000 cwts.; but during the last five years, owing to scanty irrigation, the export of cotton from Payta, the port of the province of Piura, has only been from 5,000 to 6,000 cwts. This cotton commands a price only inferior to the "Sea Island." Previous to the civil war in the States of North America, the price of cotton exported from the port of Payta was 8½d. to 8¾d., but at present it is 10d. and perhaps more.

16. Here, then, is a cotton commanding a high price in the English market, with a staple exceeding in length any of the North American kinds, except the "Sea Island," which, nevertheless, flourishes in a drier and equally hot climate to those of any of the indigenous Indian cotton districts, where the plant only yields a very short staple. It, therefore, seems particularly desirable that this Peruvian kind should receive a trial in the dry and hot regions on the eastern side of the Madras Presidency, and also in Sind.

17. I would suggest that these trials should be made in the Collectorates of Coimbatore, Madura, and Tinnevely.

18. Coimbatore lies opposite the great gap in the peninsular chain of mountains at Palghautchery, between the southern slopes of the Koondah and Neilgherry mountains, and the northern face of those of Travancore. Across this depression the south-west monsoon has almost a free passage to the eastward, but the great elevation of the mountains on both sides, and the absence of any considerable hills in the district, cause the monsoon winds to pass over it without depositing much moisture; and though the climate is humid during this season, from May to September the rain-fall is very trifling. During the other part of the year, when the north-east monsoon prevails, the hills in the Salem district intercept the moisture from Coimbatore. Thus, during part of the year, scorching hot dry winds parch up this Coimbatore district, especially in its eastern part, while the annual rain-fall varies very much in different seasons, though it is always small. In some years it is 30 inches, and in others only 7 inches.

19. The climate of the Madura district, especially the western part round Dindigul, closely resembles that of Coimbatore; but it only receives moisture, in the shape of moderate rains, during the prevalence of the north-east monsoon.

20. The district of Tinnevely, as regards soil and climate, is likened by Dr. Hooker to that of Egypt. At Courtallum the rain-fall is 40 inches, but the district is entirely screened from the south-west monsoon by the Travancore mountains, and, to some extent, from the north-east monsoon by the Serumullay hills in Madura, and, in the southern part, by the island of Ceylon.

21. These districts therefore, which are probably far too dry for the successful cultivation of North American cotton, are admirably adapted for the growth of the long-stapled indigenous plant of the Peruvian province of Piura. Indeed, as regards moisture, these Madras districts have the advantage of the Piura valleys in Peru.

22. In considering the method of cultivation, it must be remembered that in Peru the cotton crops are entirely dependent on irrigation. But in Coimbatore, where there is a great deal of the black cotton soil, it seems to be very generally considered that irrigation is detrimental to the cotton plant, that soil possessing in itself an extraordinary attraction for water, and generally retaining a sufficient supply for the sustenance of the plants, with the aid of a moderate rain-fall. But in the sandy and red soils, and in these I consider that the Peruvian cotton plants should be tried, artificial irrigation is beneficial, if carefully applied, and at the right stages of growth, not by flooding, but by means of small water-channels in the middle of the rows. The latter is the treatment which I saw in practice on the cotton estates of the province of Yca. It will probably be found advisable to apply a moderate amount of artificial irrigation in the dry districts where the Peruvian cotton plants will be tried.

II.
Madras.

23. I expect to receive a supply of the seeds of the cotton plants of the Peruvian province of Piura very shortly, from Her Majesty's Vice-Consul at the port of Payta, and a second supply later in the year. These will be transmitted to Madras at once, and, if it is considered desirable, further supplies will be sent both from the provinces of Piura and Yca.

24. The great advantage which it is hoped will be derived from the introduction into India of this Peruvian species is the cultivation of a long-stapled and high-priced cotton in districts which, from their dryness, have hitherto only been found suitable for the indigenous Indian short-stapled plant.

Clements R. Markham.

24 April 1862.

Enclosure 2, in No. 11.

(No. 174.)

ORDER thereon, 12 June 1862, No. 1,294.

1. ORDERED to be communicated to the Board of Revenue, together with 15 copies of Mr. Markham's memorandum, for distribution, as ordered in paragraph 3 of the Despatch.

2. The Government consider it desirable that the seed should be tried in the collectorates of the east coast more extensively, and that some should be sent also to Mr. Fischer, of Salem. The Board will arrange for this being done, and they will furnish these parties also with copies of Mr. Markham's memorandum.

3. The Board will bear in mind the requisition of the Secretary of State at the end of paragraph 3.

J. D. Sim,
Secretary to Government.

Enclosure 3, in No. 11.

(No. 354.)

LETTER from the Honourable *R. O. Campbell*, Chairman, Chamber of Commerce, to *P. P. Hutchins*, Esq., Acting Deputy Secretary to Government, Revenue Department; dated Madras, 22 July 1862.

Sir,

1. I HAVE the honour to acknowledge receipt of an interesting paper on the culture of Peruvian cotton, and the similarity of the soil and climate of the region between the slopes of the Andes and the Pacific Ocean, where this cotton is grown, to the soil and climate of certain portions of the districts of Coimbatore, Madura, and Tinnevely; and I am desirous to express the thanks of the Chamber to Government, for the information therein communicated.

2. The Chamber considers it very desirable that a careful trial should be made of the seeds that are to be transmitted by Mr. Markham in the districts named, both in the black cotton soil, and in the gravelly soil which has been found suited to other exotic cottons.

3. With this view also, the Chamber considers that a trial should be made in the district of Chingleput.

4. In Mr. Markham's paper, reference is made to the advantages obtained in cotton cultivation in certain coast valleys in Peru, from the overflowing of the rivers. It might be desirable, therefore, to give the seeds a trial in the districts of Tanjore and Rajahmundry, where the deltas formed by the Cauvery and Godavery afford peculiar facilities for irrigation.

(No. 355.)

ORDER thereon, 28 July 1862.—No. 1,602.

ORDERED to be communicated to the Board of Revenue, with reference to the proceedings of Government, dated 12th June 1862, No. 1,294. The Board will arrange for a portion of the seed being sown in the Chingleput district, and in the deltas of the Cauvery and Godavery.

P. P. Hutchins,
Acting Deputy Secretary to Government.

— No. 12. —

II.
Madras.

REVENUE LETTER from Madras, dated 4 March, No. 10 of 1862.

1. THE papers we now forward will inform you of the measures adopted by us in furtherance of a Resolution, dated 9th August 1861, by the Governor General in Council, offering, under certain conditions, prizes of 10,000 rupees during 1861-62 and 1862-63, for encouraging the production of cotton in India and the improvement of its quality.

Proceedings of Govt.,	5th Sept. 1861,	Nos. 40 and 41.
"	29th Oct. "	" 356 and 357.
"	29th " "	" 358 and 359.
"	29th " "	" - 360.
"	31st " "	" - 384.
"	7th Nov. "	" 96 and 97.
"	9th Dec. "	" 74 and 75.
"	1st Feb. 1862	" 14 and 15.

2. The resolution in question, which will be found in our proceedings of 5th September 1861, No. 1,765, was translated into the vernaculars, and published in the Fort St. George and District Gazettes. The Chamber of Commerce have undertaken the duty of awarding the prize to the cotton producers of this Presidency. At our request, the Board of Revenue have drawn up rules to be followed in awarding the prize in the current season of 1861-62, and have forwarded them to the Collectors for translation and publication in the District Gazettes. They are based upon the suggestions made by the Chamber in their letter of 28th January, and upon the instructions in the Resolution of 9th August 1861 above quoted, and will be found in the Board's Circular of 10th instant, No. 915.

Circular from Board of Revenue to all Collectors, dated 10th February 1862, No. 915.

3. Among the papers now forwarded will be found a Minute by our President, on the improvement of the indigenous cotton of this Presidency. The subject is of much importance to Madras. There is a large extent of land suited to the growth of the native cotton, and its culture is already general. To the poorer ryots it has two great advantages, viz.—that it is less precarious than the foreign varieties, and that there is a local demand and market for it, while foreign cotton is sought mainly for export. To improve the hardy indigenous plant, so as to render its produce suitable also for the foreign market, is evidently very desirable, but no systematic efforts have been made with this view of late years. To promote this important object, we have directed the Board of Revenue to offer to a few intelligent natives in different parts of the country a remission of all assessment upon a certain quantity of land (not exceeding 30 acres each) for five years, on condition of their devoting the land to the improvement of the native cotton, furnishing the Collector with the means of ascertaining that they have duly fulfilled the terms of agreement. We also contemplate offering prizes for superior cotton, but the details of this plan are not yet settled, and will be reported hereafter.

4. We have also arranged with the Horticultural Society of Madras to have similar experiments conducted in their grounds at Madras, under the personal care of their European Superintendent, who is a trained gardener. The object being to improve the variety, high culture, and scientific treatment of the plant, is very necessary. The arrangement has the further advantage of being under our observation without being actually a Government undertaking, or open to the objections to which, in the opinion of the Supreme Government, model farms are subject. The Society are to devote 10 acres of land to the experiment, and to make over the seed and a portion of the cotton to Government in return for a monthly allowance of 150 rupees. Thus, for a very moderate sum, we shall be enabled to have the experiment properly tried of improving the indigenous cotton by careful culture from the finest seed, and also by hybridization.

5. These arrangements were duly reported to the Government of India, and have received their approval.

6. We take this opportunity to forward for your information our proceedings in the Public Works Department noted in the margin, from which you will learn that the Government of India have sanctioned for this Presidency an extra Public Works grant for the current year of one and a half lac, for opening out facilities for the export trade of the country, and especially for the cotton trade. The proposals made by us for the

Pub. Works, Pros. of Govt.,	17th Oct. 1861,	Nos. 204 & 205.
"	29th " "	" 379 & 380.
"	19th Nov. "	" 254 & 255.
"	19th Dec. "	" 248 & 249.

11.
Madras
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expenditure of this sum, and which have been approved by the Government of India, are stated in detail in our letter to that Government, dated 19th November 1861, No. 2,146, and in its enclosure, to which we beg to refer you.

Enclosure 1, in No. 12.

(No. 40.)

READ the following Letter from *W. Grey*, Esq., Secretary to the Government of India, Home Department, to *T. Pycroft*, Esq., Chief Secretary to the Government of Fort Saint George; dated Fort William, 10 August 1861, No. 1,507.

Sir,

1. I AM directed to forward the accompanying copy of a resolution by the Governor General in Council, which has been published in the "Gazette" of this date, offering prizes in the present and in the following years for encouraging the production of cotton in India, and the improvement of its quality, and stating the general conditions under which the prizes will be given; and I am directed to request that the resolution may be republished in the Madras "Gazette."

2. I am further to request that, with the permission of His Excellency the Governor in Council, it may be ascertained from the Chamber of Commerce at Madras, whether they are willing to undertake the duty of awarding the prize in that Presidency, as suggested by the resolution.

Enclosure 2, in No. 12.

HOME DEPARTMENT.

SUPPLY OF INDIAN COTTON TO ENGLAND.

RESOLUTION by the Governor General in Council, dated 9 August 1861.

1. IN a resolution of the 28th February last, the Government of India signified its earnest desire to encourage the cultivation of cotton in India by every means consistent with the proper functions of Government.

In the discussions which have since taken place, the best-informed authorities on this great national question have insisted on the fact that, while the area of land under cotton cultivation in India is capable of great and rapid extension under the stimulus of higher prices, the quality of the cotton produced is less easily susceptible of improvement, and that it is most important to direct the attention of all parties interested in the cultivation to improvement of the quality, while maintaining, and if possible increasing, the average yield per acre of the general cotton crop of the country.

2. It has been suggested that the Government of India might usefully aid in this work without infringing the first rule* laid down in the resolution of 20th February last.

The Governor General in Council believes that observance of this rule is necessary to any sound and permanent improvement; but, as far as can be done without infringing it, his Excellency in Council desires that nothing be omitted on the part of Government which can aid in arousing the attention of India to the great questions involved in any scarcity of the raw material for our English manufactures—questions the interest of which is deepened as each successive mail brings fresh evidence that the scarcity may be more than temporary.

3. His Excellency in Council believes that much may be effected, even in those older cotton districts of India which have long contributed an important share of the cotton of the lower qualities employed in our English manufactures. But it is of still greater importance to aid and expedite the solution of the doubts which exist as to the best soils and climates and modes of cultivation for cotton in those districts whence, heretofore, there has been little if any export of cotton to Europe.

4. In furtherance of these views, the Governor General in Council has resolved to offer prizes for the production of cotton during the two next years, that is to say, in the current season of 1861–62, and in the subsequent season of 1862–63.

Three prizes of 10,000 rupees each will be given in each season—one in the Presidency of Fort William, one in the Presidency of Madras, and one in the Presidency of Bombay.

5. For

* 1st. That no measure which places Government in the position of the private capitalist, cultivator, or speculator, or which in any way interferes with private enterprise, can be otherwise than permanently injurious in itself and detrimental to the object in view.

Therefore, all attempts to stimulate cultivation or labour by any exertion of Government authority, directly or indirectly, are out of the question.

The same objection will apply to model farms and experimental cultivation conducted by officers of Government.

5. For the current season the conditions will be as follows:—

A. The prize in each Presidency will be given for the largest quantity of cotton, combined with the best quality, which shall be grown upon any one estate within the Presidency during the season of 1861–62, and which shall be brought for shipment to any port in or before the month of June 1862.

B. Any district in the interior will be considered to have a claim to compete for the prize in that Presidency to the port of which it is intended to send the cotton for shipment.

C. The extent of ground under cultivation must not be less than 30 acres, all belonging to one property, or cultivated by one superintendent.

D. The fulfilment of the last-named conditions must be certified by the chief revenue officer of the district in which the estate is situated, or by any other agents specially recognised by the Government for that purpose.

These two last rules are intended to prevent the prize being given to a selection of picked samples from a large area, which would require none of the care or attention to the general cultivation of the plant which it is the desire of Government to encourage.

E. The prizes will be awarded by the Chambers of Commerce at Calcutta, Madras, and Bombay, respectively, if the gentlemen representing those bodies will consent to undertake the task.

F. A sealed sample of the cotton must be sent by each competitor to the Chamber of Commerce, and the consignment to which the prize is awarded will afterwards be inspected by the Chamber and verified as corresponding with the sample. In case of its being desired to ship the consignment at an outport, the inspection of it will be made by some person specially appointed by the Chamber of Commerce.

G. Each sample must be accompanied by a full and clear statement, by the grower, of the system which has been pursued in the cultivation, with an accurate and detailed account of all the expenses incurred.

H. Any subsidiary rules which may be found requisite will be laid down by the Chambers of Commerce.

6. All public officers whose assistance may be sought in respect to the conditions of the 4th rule, or for any other object, are enjoined to give their cordial co-operation in carrying out the intentions of Government.

By order, &c.,

W. Grey,
Secretary to the Government of India.

(No. 41.)

ORDER thereon, 5 September 1861, No. 1,765.

1. THE above resolution of the Supreme Government will be published (with vernacular translations) in successive issues of the "Fort Saint George Gazette," and the Board of Revenue will be requested to have translations of it published in the District Gazettes and otherwise make its purport generally known.

2. A copy will also be communicated to the Chamber of Commerce, and they will be requested to state whether they consent to undertake the task of adjudging the prize offered by the Supreme Government.

J. D. Sim,
Secretary to Government.

Enclosure 3, in No. 12.

(No. 356.)

READ the following Minute by the Honourable the President:—

MINUTE on the Growth and Improvement of the Quality of Native Cotton.

1. I AM induced to bring under the consideration of the Council questions connected with the improvement and extension of the growth of cotton in the Presidency of Madras, by the publication of a resolution of the Governor General in Council, to the effect that prizes of 10,000 rupees will be given, during the years 1861–62, 1862–63, in each of the Presidencies of Fort William, Madras, and Bombay, under certain conditions made known in the proclamation. The subject of the extension of the cultivation of cotton in the British Colonies has been under my consideration for many years past. In Australia various attempts were made to introduce the finer species of American cotton, and, so far as the quantity and quality of the cotton was concerned, these attempts succeeded; but the high price of labour was a complete bar to the introduction of cotton as a paying crop.

2. Since my arrival in Madras, the same subject has been brought before me in various ways—at one time in the shape of suggestions for the improvement of the means of conveyance by water or railways, for the purpose of bringing more cheaply to market the surplus produce supposed to exist in the interior; at another, as in the present instance, by proposals to stimulate the cultivation by the offer of prizes.

II. Madras.

3. I have in consequence been led to make a variety of inquiries from persons engaged in the cultivation of cotton, and from others, and the following are the results to which these inquiries have led :—

(1.) That the great surplus of cotton supposed to exist in the interior of the country, and which only awaits cheaper means of conveyance to bring it to market, is the product of the imagination of those whose object it is to show that there is traffic sufficient to defray the cost of transport, as well as the interest of money invested in railroads or canals, as the case may be.

Cotton is cultivated, and that largely, in various districts; but this is generally done by the ryots under the stimulus of an advance of capital from a merchant or speculator, and on the security of a fixed price per pound for the crop. There is, therefore, little or no surplus beyond that already, so to say, mortgaged to the merchant, at a price low enough to enable him to pay all costs and charges to the port of shipment.

(2.) That the extensive districts of what is emphatically called "cotton soil," though well adapted to produce "native cotton," which is short in the staple and strong, not to say coarse, in the fibre, is not congenial to the growth of the fine species of American cotton. This kind of cotton I know, from experiments in Australia, to flourish in a light sandy loam, and I am told that similar results have obtained here. The "cotton soil," which is an adhesive black clay, almost of the consistence of birdlime, when thoroughly wet, dries into the consistence of a brick, but crumbles under the action of the sun and slight showers into a light powder. In the dry season this soil cracks deeply, showing, by the amount of shrinkage when the water evaporates, that it contains a very large proportion of clay. The experiments which have been made on the cultivation of the American cotton on this soil have hitherto been unsuccessful. That there are soils in which these cottons can be grown is very probable. In the red soil of Coimbatore, Bourbon cotton is grown to some extent, and it is possible that other sites may be found where the Upland or New Orleans cotton may be grown with advantage.

4. With a view then to the development of the cotton-producing powers of India, generally, by which the English manufacturers might be relieved from their present dependence upon the supply from America, two courses appear to present themselves—

(1.) The encouragement by every means of the introduction of the better species of American cotton.

(2.) The improvement of the native cotton, by increasing the length of the staple, and lessening the coarseness of the fibre. Attention paid to the last of these two schemes would be likely to yield results more profitable to the cultivator, and more advantageous to the manufacturer, than any which would result from the cultivation of American cotton. In the first place, we know that there is a large extent of soil well fitted for the cultivation of this particular species; that little encouragement will be required to induce the ryot to cultivate it upon this soil; that any rise of price contingent upon the improvement of the quality of the cotton, unaccompanied (as will be the case) with any increase in the cost of cultivation, is to the direct advantage of the ryot, and will do much to stimulate production: on the other hand, the cultivation of the American cotton must be at first an experiment; it is known to be a precarious crop, and the better the quality and the higher the price, the smaller is the yield per acre.

5. While, however, I am inclined to advocate the improvement of the native cotton as the most profitable crop, I am by no means disposed to check attempts to acclimatize the better descriptions; and I will now proceed to describe, first, the process by which it is probable that the native cotton can be improved; and, secondly, the steps which it would be desirable that the Government should take to encourage a series of experiments, in various parts of the country, partly with a view to the introduction of new species of cotton, partly with a view to the improvement of the indigenous species. I must premise that the mode of improving the native cotton has been suggested by the Marquis of Tweeddale, who explained the process to Mr. Thomas, the Collector of Coimbatore, in a letter which that gentleman communicated to me.

6. The process is as follows:—From the seed-pods of this year's crop take out those seeds to which the largest fibres are attached, establishing a minimum length of fibre, and throwing away all those seeds the cotton of which does not reach this standard; these selected seeds will be used for the next crop, and a similar process will be followed with this, the minimum length being increased every year. In this way, in the course of a few years, it is probable that a permanent addition will be made to the length, and possibly to the fineness of the fibre, and it will then be easy to spread the seed of the improved kind over the whole of the indigenous cotton-fields of India.

7. In the resolution of the Governor General in Council, to which allusion has been made, a former resolution of 28th February is referred to, in which the following principle is laid down:—"That no measure which places Government in the position of the private capitalist, or cultivator, or speculator, or which in any way interferes with private enterprise, can be otherwise than permanently injurious in itself, and detrimental to the object in view.

"Therefore, all attempts to stimulate cultivation or labour by any exertion of Government authority, directly or indirectly, are out of the question.

"The same objection will apply to model farms, and experimental cultivation conducted by officers of Government."

8. Approving generally of the principle laid down, though perhaps I might demur to some of the deductions, if carried out generally, I will now explain the mode in which I propose that the Government should act to encourage the experiments detailed above, as well as those which have for their object the introduction of the better qualities of cotton.

9. The object being to improve the quality of the cotton grown on what is called the "cotton soil," I should propose to allow to a few intelligent natives in different parts of the country who may be willing to undertake these experiments, a remission of all assessment upon a certain quantity of land (not exceeding, say, 30 acres in extent), for a period of five years, upon condition that this land should be devoted to cotton cultivation, and that an annual return should be made to the Collector, showing the area under cultivation, the cost of cultivation, the amount of the crop, &c. &c., and that this should be accompanied by a sample of the crop showing all the varieties of cotton grown.

10. In addition to this, a reward should be promised to all who at the end of the five years should be able to show that the produce of their land was superior in value, taking quantity and quality into consideration, to that of similar land under cotton cultivation, and this reward should be made in some measure proportionate to the improvement in the quality of the cotton, whether this be the result of a change in the quality of the native cotton, or of the introduction of a superior species; in fact, it might almost be made proportionate to the price of the cotton sent to market; and as, in the present instance, the Governor General in Council has not hesitated to offer a reward of 10,000 rupees in a single prize, I do not think that there ought to be any hesitation in establishing a gradation of prizes, varying from 100 to 5,000 rupees, according to some scale to be hereafter determined, the highest premium being given to the successful cultivator of cotton, whose value per pound, and the value of the crop per acre, should not be less than the sums determined on.

W. T. Denison.

29 August 1861.

I concur in this Minute.

W. Morehead.
E. Maltby.

Enclosure 4, in No. 12.

(No. 357.)

ORDER thereon, 29 October 1861, No. 2,069.

1. **RESOLVED**, that the above Minute be communicated to the Board of Revenue, in view to their giving effect to the experiments proposed in paragraphs 5, 6, and 9. The experiment will be tried at once on the crop of the current year, and the approaching settlement will probably be a convenient time to carry out the arrangements, as it will admit of the collectors, their assistants and deputies, personally explaining the nature and scope of the experiment. It should be particularly pointed out that the improvement of the indigenous cotton has this great advantage, that with no greater labour, expense, or risk, the crop will realize a higher price, and be adapted to the requirements of the English as well as home market. But the experiment must be tried *bonâ fide*, and unless the people cordially and honestly co-operate with the Government, success cannot be hoped for. It will need care on the part of collectors to select the persons to whom the experiment shall be entrusted.

2. The prizes proposed in paragraph 10 will be arranged by the Board after communication with such collectors and persons practically interested in the cotton trade as they may wish to consult, and a detailed report will then be submitted to Government by the Board.

J. D. Sim,
Secretary to Government.

Enclosure 5, in No. 12.

(No. 358.)

READ the following Letter from the Rev. J. Ruthven Macfarlane, M. A., Honorary Secretary to the Agri-Horticultural Society, to J. D. Sim, Esq., Secretary to Government, Revenue Department, Fort St. George; dated Madras, 2 October 1861.

Sir,

1. THE interest which Government has manifested on the subject of cotton supply and its extended and improved cultivation in India, and also the vital importance of the question at the present moment to the manufacturing classes of Great Britain, will, I trust, be considered a sufficient warrant to request you to be good enough to submit the following proposition to the consideration of his Excellency the Governor in Council.

2. Much has been done in recent years, and great expense has been incurred, to improve the quality of Indian cotton by the introduction of foreign seed, but comparatively little to improve the indigenous plant, which, possessing certain acknowledged advantages over

II.
Madras.

exotics, has yet important defects, such as brittleness and shortness of staple, which, by improvement in cultivation, but still more in the quality of the seed, may, it is believed, be wholly removed. This may be done—

(1.) By careful and high cultivation, and continuous and careful selection of the best seed, by which it can be made to outgrow, in the course of two or three croppings, its present defects, in the same manner and by the same process successfully followed in England, by which cereals and other seeds are improved and even altered in some of their qualities.

(2.) By hybridizing the indigenous seed with some of the best varieties of foreign countries which possess in the greatest degree those qualities in which the country seed is defective, but which are found difficult to cultivate in India, as, for example, Sea Island cotton. If the properties of great length and flexibility of fibre could by hybridizing be communicated to the indigenous cotton, a staple would be obtained of great value in the English market.

3. A portion of the Society's Nursery Ground, and also of Homes' Gardens, to the extent of from eight to ten acres in all, might be put under crop for these two purposes, the expense of which would be about 100 rupees per mensem. As this would entail very great additional labour and responsibility on the superintendent, it would be but fair to add to his present scanty salary a sum of 50 rupees per mensem.

4. A journal should be kept, briefly detailing every step taken, from first breaking ground to the last process of cleaning, with a full statement of the results.

5. The process for the two experiments would probably be different in the first instance, as in the one the object sought for would be a superior quality of seed, in which case the cotton might be sacrificed; and in the second, the object sought for in the experiment at first would be what might be called a new variety of cotton.

6. Should his Excellency the Governor in Council see fit to sanction these experiments, I would venture to suggest that, as the season is far advanced, an early decision is desirable.

Enclosure 6, in No. 12.

(No. 359.)

ORDER thereon, 29 October 1861, No. 2,070.

1. THE Governor in Council accepts the proposal of the Committee, with only the stipulations that the improved seed shall be at the disposal of Government (the Society, of course, having as much as they may require for their own use), and that the Government are supplied with a portion of the cotton annually produced. The cotton being required merely as a sample of the crop raised, a moderate quantity will suffice.

2. The Committee will be furnished with a copy of the Honourable the Governor's Minute on the improvement of the indigenous cotton.

J. D. Sim,
Secretary to Government.

Enclosure 7, in No. 12.

ORDERED, that the following letter be despatched :—

(No. 360.)

From *J. D. Sim, Esq.*, Secretary to the Government of Fort St. George, to the Chairman of the Chamber of Commerce, dated 29th October 1861, No. 2,071.

Sir,

1. I AM directed by the Governor in Council to request the favour of an early reply to G. O. 5th September 1861, No. 1,765, relating to the cotton prize offered by the Supreme Government.

2. I am also to request that, in the event of the Chamber consenting to undertake the duty of awarding the prize, a copy of the subsidiary rules which they may deem necessary may be transmitted for publication.

Enclosure 8, in No. 12.

II.
Madras.

ORDERED that the following letter be despatched :—

(No. 384.)

From *J. D. Sim*, Esq., Secretary to the Government of Fort Saint George, to the Secretary to the Government of India, dated 31 October 1861, No. 2,083.

Sir,

1. I am directed to report the measures adopted by this Government in furtherance of the Resolution, dated 9th August 1861, by the Governor General in Council regarding the supply of Indian cotton to England.

2. The resolution in question has been translated into the vernaculars, and published in the Fort Saint George and District Gazettes. The Chamber of Commerce have been requested to undertake the duty of awarding the prize, but have not yet favoured the Government with any reply. Their attention has been drawn to the subject, and they have also been requested to forward the subsidiary rules for the adjudication of the prize, it being very desirable that these should be published for the information of intending competitors as soon as possible.

3. I am also directed to forward a copy of a Minute by the Honourable the Governor on the improvement of the indigenous cotton of this Presidency. The subject is of much importance to Madras. There is a large extent of land suited to the growth of the native cotton, and its culture is already general. To the poorer ryots it has two great advantages—viz., that it is less precarious than the foreign varieties, and that there is a local demand and market for it, while foreign cotton is sought mainly for export. To improve the hardy indigenous plant, so as to render its produce suitable also for the foreign market, is evidently very desirable, but no systematic efforts have been made with this view of late years. Relying on the readiness of the Supreme Government to sanction a moderate outlay for this important object, the Government have directed the Board of Revenue to offer to a few intelligent natives in different parts of the country a remission of all assessments upon a certain quantity of land (not exceeding 30 acres each), for five years, on condition of their devoting the land to the improvement of the native cotton, furnishing the Collector with the means of ascertaining that they have duly fulfilled the terms of agreement. The Government also contemplate offering prizes for superior cotton, but the details of this plan are not yet settled, and will be reported hereafter.

4. The Government have also arranged with the Horticultural Society of Madras to have similar experiments conducted in their grounds at Madras, under the personal care of their European superintendent, who is a trained gardener. The object being to improve the variety, high culture, and scientific treatment of the plant, is very necessary. The arrangement has the further advantage of being under the eye of Government without being actually a Government undertaking, or open to the objections to which, in the opinion of the Supreme Government, model farms are subject. The Society are to devote 10 acres of land to the experiment, and to make over the seed and a portion of the cotton to Government, in return for a monthly allowance of 150 rupees. Thus, for a very moderate sum, the Government will be enabled to have the experiment properly tried of improving the indigenous cotton by careful culture from the finest seed, and also by hybridization.

5. I am to add that the Government trust the arrangements above reported will meet with the approval of the Governor General in Council.

6. A report will shortly be submitted on the best mode of expending the funds promised in Colonel Yule's circular of 9th October 1861, No. 90.

Enclosure 9, in No. 12.

(No. 96.)

READ the following letter from *W. R. Arbuthnot*, Esq., Chairman, Chamber of Commerce, to *J. D. Sim*, Esq., Secretary to Government, Revenue Department, Fort Saint George; dated Madras, 2 November 1861 :—

Sir,

1. I HAVE the honour to acknowledge the receipt of your letter, No. 2,071, in the Revenue Department, dated 30th October, and in reply to inform you that the Chamber of Commerce accepts the duty of awarding the prizes offered by the Supreme Government to the cotton producers of this Presidency for the seasons 1861-62 and 1862-63, in terms of the resolution of the Governor General in Council, dated 9th August 1861.

2. I will at once ascertain the views of the Chamber in regard to any subsidiary rules that may be deemed requisite, and address you further thereon.

II.
Madras

Enclosure 10, in No. 12.

(No. 97.)

ORDER thereon, 7 November 1861, No. 2,134.

Communicated to the Board of Revenue.

J. D. Sim,
Secretary to Government.

Enclosure 11, in No. 12.

(No. 74.)

READ the following letter from *A. M. Monteath*, Esq., Under Secretary to the Government of India (Home Department, Revenue), to *J. D. Sim*, Esq., Secretary to the Government of Fort Saint George; dated Fort William, 25 November 1861, No. 2,316:—

Sir,

1. I AM directed to acknowledge the receipt of your letter, No. 2,083, dated the 31st ultimo, with enclosures, reporting the measures which have been adopted by the Government of Madras for the encouragement of cotton cultivation.

2. In reply I am desired to intimate that the Governor General in Council approves of the remission of assessment on small tracts of land in different parts of the Madras Presidency devoted to the improvement of native cotton, and also of the experiment to be conducted in the gardens of the Madras Horticultural Society.

3. I am directed to add that his Excellency in Council takes a great interest in these experiments, and is desirous to be kept informed from time to time of the progress made in them.

(No. 75.)

ORDER thereon, 9 December 1861, No. 2,281.

Ordered to be communicated to the Board of Revenue and the Madras Agri-Horticultural Society for their information. They will be requested to submit from time to time brief reports of the results of the experiments recently authorised to improve cotton cultivation.

J. D. Sim,
Secretary to Government.

Enclosure 12, in No. 12.

(No. 14.)

READ the following letter from the Honourable *R. O. Campbell*, Chairman of the Chamber of Commerce, to *J. D. Sim*, Esq., Secretary to Government, Revenue Department, Fort Saint George; dated Madras, 28th January 1862:—

Sir,

1. In acknowledging the receipt of your letter of this day, calling for the decision of the Chamber in regard to any subsidiary rules that may be considered necessary in reference to the Governor General's resolution offering a prize for cotton, I have the honour to state that the subject has been before the Chamber, in circulation and in committee.

2. The only rules that the Chamber would suggest as supplementary to the conditions already published, are the following:—

- (1.) That the samples shall not be less than 10 lbs.
- (2.) That the latest date for the receipt of samples should be the 31st July 1862, and that the statement accompanying should give the following particulars:—
 - (1.) Extent of land sown, whence seed was procured, quantity of seed per acre.
 - (2.) Peculiarities of situation, climate, and soil.
 - (3.) Date of sowing and period of collection of crop.
 - (4.) Mode of culture, whether irrigated or not; the weather from sowing to the harvest.
- (5.) Quantity of cotton collected from an acre, net produce of clean cotton, and weight of seed.
- (6.) Description of gin used, and its cost.
- (7.) Quantity of cotton cleaned by one gin per day.
- (8.) Cost of cotton at port of shipment, including all incidental charges; these particulars must be given in detail.

3. I am desired to add, that so many months having elapsed since the publication of the Governor General's resolution, the Chamber has not felt itself at liberty to suggest any alterations on the amount of price or conditions of competition for the present year, especially
as

as it is aware that several parties have secured land and sown cotton on the faith of the resolution as published. But the Chamber is of opinion that, for securing the objects set forth in the Governor General's resolution, it would be advisable to make some modifications in the terms of competition for the following year.

(No. 15.)

ORDER thereon, 1 February 1862, No. 169.

Communicated to the Board of Revenue, who are requested to draw up rules in accordance with the suggestions of the Chamber, and the instructions contained in the resolution of the Governor General in Council, dated 9th August 1861. The Board will circulate the rules to the collectors, with instructions to translate and publish them in their Gazettes, and make them generally known in their districts.

J. D. Sim,
Secretary to Government.

CIRCULAR.

(Miscellaneous.—No. 915.)

From W. Hudleston, Esq., Secretary to the Board of Revenue, to all Collectors.

Sir,

IN pursuance of instructions from Government, I am directed by the Board of Revenue to forward to you the accompanying notification of the rules that will be followed in awarding the Governor General's prize for cotton in the current season 1861-62, which you will please to translate and publish in your District Gazette, and make generally known in your district.

Revenue Board Office, Madras,
10 February 1862.

I have, &c.
W. Hudleston,
Secretary.

NOTIFICATION.

The Governor General having determined to offer in the Madras Presidency a prize of 10,000 rupees for the production of cotton in the current season of 1861-62, which prize will be awarded by the Chamber of Commerce at Madras, the following rules are published for the information of all persons of every class who may propose to compete for the prize:—

RULES.

Rule 1. The prize will be given for the largest quantity of cotton of the best quality which shall be grown upon any one estate or holding during the season of 1861-62, and which shall be brought for shipment to any port in the Madras Presidency in or before the month of June 1862.

Rule 2. The prize is open to competition by any producers in the interior of India intending to ship the produce from a port of the Madras Presidency, although the article may have been grown in a district out of that Presidency.

Rule 3. The extent of land under cotton cultivation in each case must not be less than 30 acres, all belonging to one property or cultivated by one superintendent, and the fulfilment of these conditions must be certified by the collector or chief revenue officer of the district in which the land is situated.

Rule 4. The prize will be awarded by the Chamber of Commerce at Madras, to whom a sealed sample, containing not less than 10 lbs. of the cotton, must be sent by each competitor, so as to reach them before the 31st July 1862, accompanied by the necessary information as to the port at which the whole consignment is to be shipped, and a statement showing the following particulars:—

- (1.) Extent of land sown, whence seed was procured, the quantity of seed used per acre.
- (2.) Peculiarities of the situation, climate and soil of the land.
- (3.) The date of sowing, and the period of picking the crop.
- (4.) The mode of culture, whether irrigated or un-irrigated, and the state of the weather from the sowing to the harvest.
- (5.) The quantity of cotton collected per acre, showing the net produce of clean cotton and the weight of seed.
- (6.) The description of cotton gin used for cleaning the cotton, and its cost.
- (7.) The quantity of cotton cleaned by one gin per day.
- (8.) The cost of the cotton at the port of shipment, including all incidental charges, and giving full particulars in detail.

Rule 5. The consignment to which the prize is awarded will be inspected by the Chamber and verified as corresponding with the sealed sample. In case of its being desired to ship the consignment at an outport, the inspection of it will be made by some person specially appointed by the Chamber of Commerce.

W. Hudleston, Secretary.

II.
Madras.

Enclosure 13, in No. 12.

(No. 204.)

READ the following telegram from Colonel *A. G. Goodwyn*, Secretary to the Government of India, to *J. D. Sim*, Esq., Secretary to the Government of Madras; dated Calcutta, 10 October 1861 :—

Government contemplates extra Public Works grant of one and a half lakh; increase facilities for trade, more especially in cotton. Brief but precise statement of proposed distribution required by 15th November. More by post.

(No. 205.)

ORDER thereon, 17 October 1861, No. 1,914.

Forwarded to the Chief Engineer for information. The letter of the Supreme Government will be communicated to Colonel Horsley when received; meanwhile the subject will engage his consideration.

J. D. Sim,
Secretary to Government.

Enclosure 14, in No. 12.

(No. 379.)

READ the following extract from the Proceedings of the Right Honourable the Governor General of India in Council, to the Secretary to the Government of Madras, in the Public Works Department; dated Fort William, 9 October 1861, Circular No. 90 :—

Sir,

1. SINCE orders were issued on the Public Works Budgets of the current year, applications, strongly supported, have been made from several of the Local Governments for additions to their assignments. Some of these applications have been met in part by grants from the amount which was held in reserve by the Government of India in this department; but that resource was very limited, and is exhausted. The course of events in America has also continued to render more and more urgent the call for every measure that the Government of India can take to make the export of cotton more easy. For financial reasons, no great addition can be made to the assignments of any of the Governments; but the Governor General in Council has good cause to believe that a moderate addition to the assignments of some, if announced at once, may have very useful results.

2. And after mature consideration in the Financial Department, it has been decided by the Governor General in Council to grant a total addition not exceeding 12 lakhs.

3. In making this addition, the intention of his Excellency in Council is, that it should be devoted in good faith to the attainment of more decided progress during the current year 1861-62, in opening out facilities for the export trade of the country, and especially for the export cotton trade. Some slight exceptions to this may be admitted where there is an urgent call for a special work of a different character, but still having an important bearing on the public welfare.

4. Many works have been specified by the various Governments and Administrations as those on which they desire to be allowed to expend more than the sum limited by the budget. But before making these additional assignments definitively, the Governor General in Council desires to receive from each of the Governments named below (by an early date, not later, if possible, than the 15th November), a brief but precise statement of the objects on which they propose to expend this addition to their assignments.

5. And his Excellency in Council desires also that the Governments named may at the same time report whether they are satisfied that the additional amount can be expended with benefit by their officers during the current year. It is a public injury to appropriate an assignment of this kind, which might be beneficially shared among other provinces, if it be not used with benefit. Enough of the current year has passed to render a judgment on this point easy.

6. The apportionment which the Governor General in Council is disposed to make, from the information at present in his possession, is as follows :—

Bombay	-	-	-	-	-	-	-	-	-	3½ lakhs.
Nagpoor	-	-	-	-	-	-	-	-	-	1½ "
Madras	-	-	-	-	-	-	-	-	-	1½ "
Bengal	-	-	-	-	-	-	-	-	-	1½ "
North West Provinces	-	-	-	-	-	-	-	-	-	1½ "
Punjab	-	-	-	-	-	-	-	-	-	0¾ "
Pegu	-	-	-	-	-	-	-	-	-	0¾ "
Hyderabad	-	-	-	-	-	-	-	-	-	0½ "
Reserved by this Department	-	-	-	-	-	-	-	-	-	1 "

TOTAL - - - 12 lakhs.

ORDERED, that a copy of this Resolution be sent to the Governments named, with a request that the information called for in paragraphs 4 and 5 of this Resolution be supplied at once. It should be with this Government by the 15th November.

Enclosure 15, in No. 12.

(No. 380.)

ORDER thereon, 29 October 1861, No. 2,003.

II.
Madras.

REFERRED to the Chief Engineer for immediate report. Colonel Horsley's particular attention is directed to paragraph 5; but the Government cannot doubt that, with proper and timely arrangements, the additional funds now offered may be accepted with the certainty of their being profitably expended this year.

J. D. Sim,
Secretary to Government.

Enclosure 16, in No. 12.

(No. 254.)

READ the following Letter from Lieutenant Colonel W. H. Horsley, Chief Engineer, to J. D. Sim, Esq., Secretary to Government; dated Chepauk, 11 November 1861, No. 7,067.

Sir,

I HAVE the honour to submit herewith a Memorandum of the proposed allotment of the sum of one and a half lac of rupees offered by the Government of India, in their orders noted in the margin, for opening out facilities for the export trade of the country, and more especially for the cotton trade.

Proceedings of the Government of India, dated 9th October 1861, No. 90, communicated in Proceedings of Madras Government, No. 2003, dated 29th October 1861.

2. The two first works in the memorandum are roads in the Vizagapatam district; one leading to Jeypur, and the other to Raipur, a district in the Nagpore territory, the opening of which is recommended by the Collector of Vizagapatam, in his report regarding the supply of Indian cotton to England, as a means of bringing that article to the coast for export. In the District Engineer's report on the above roads, forwarded with my endorsement of the 26th October 1861, No. 10,005, he recommends the immediate expenditure of 9,000 rupees, being at the rate of 150 rupees per mile for the 60 miles of road to Jeypur, beyond the Gálikonda range (Harris Valley), up to which a bullock tract already exists. To reach the cotton country, a further distance of 40 miles to Jugdulpoor in Bustar, is recommended at the same rate of 150 rupees per mile, making in all 15,000 rupees, of which I have provided 9,000 rupees for the present year. For the road from Purvattapur to Raigudda, leading to the Raipur district, which is not considered of equal importance, an outlay of 2,000 rupees is allowed for this year.

Road from Vizagapatam to Jeypur, 9,000 rupees.
Ditto from Purvattapuram to Raigudda, 2,000 rupees.

Proceedings of Madras Government, 26th August 1861, No. 1706.

3. In the Nellore district two roads—one the continuation of the Cumbum road from Ongole to Kottapatam on the coast, and another from Nellore to Budwail, are proposed. Both are essential to the cotton trade, and are referred to particularly in a letter from the district engineer, Nellore, dated the 19th April 1861, herewith forwarded, together with the report of the Collector referred to therein. The completion of the road from Cumbum, *viâ* Ongole to the coast, is strongly recommended by the Collector as a means of conveying the cotton grown to the south of the Kistna, in the Kurnool district, to a port of shipment. The portion of the road near the coast passing over a salt swamp, and through heavy sand between the swamp and the beach, is noticed as requiring immediate attention, and for this latter work the late acting district engineer was called upon for an estimate, which he submitted, with an intimation that the amount (13,700 rupees) had been sanctioned by the Collector from the local funds of the district. The road from Nellore to Budwail, *viâ* the Dorenál Pass, by which cotton grown in Cuddapah is brought to Madras through Nellore, is reported to be in bad order, and to be much in want of masonry works to complete it. For this also the Collector is stated to have sanctioned an estimate of 19,000 rupees from the local funds; but as the two roads referred to are of general importance, and should therefore be undertaken from Imperial funds, I have thought it proper to provide for them in the present allotment, and thereby relieve the local funds of this large expenditure. These roads were hastily formed in the years 1853 and 1854, at a large cost, during a famine, in order to provide employment for the poor of the country, and the masonry works required for their completion were not then built.

Ongole to Kottapatam, 14,000 rupees.
Nellore to Budwail, 14,000 rupees.

In Proceedings, Board of Revenue, No. 1984, dated 17th April 1861.

District Engineer's letter, dated 17th April 1861, No. 1984.

4. In the Cuddapah district, where much cotton is grown, three roads are provided for. The two first are stated by the district engineer, in his report, dated the 18th April 1861, to be the most important. Of the first-mentioned road, the portion from Cuddapah to the frontier of the North Arcot district, though stated to be in good order, is incomplete for want of masonry works, and for these a provision made in the Budget for 1861-62, is under restriction (marked A), and therefore not available, unless exempted by the grant now proposed. Of the second road, the portion to the Bellary frontier running through black cotton soil, is stated to be frequently impassable, and for it 9,000 rupees are entered in the accompanying memorandum. Towards the completion of the Cuddapah and Budwail road to the Dorenál Pass, to connect with that to Nellore, referred to in the preceding paragraph, 4,000 rupees are provided.

Cuddapah to Chittoor, 15,000 rupees.
Ditto to Bellary frontier, 9,000 rupees.
Ditto to Budwail, 5,400 rupees.

Item No. 200, eight bridges between Kuleudda and : Goollehero, 15,000 rupees.

* Royachoti by Madnapilli to Poon-ganoor, item No. 147, Budget of 1861-62.
Cuddapah by Razepett to Kurnool, item No. 292, Budget of 1861-62.

5. Of the remaining roads referred to in the district engineer's letter, two, as per margin,* have been removed from restriction by a grant from the reserve fund, and are now in progress, and for the Cuddapah and Madras road, the early completion of which is advocated, because the North-West Railway will probably be opened for traffic by the end of the year, as far as Kircumbaddi, 10,867 rupees are allowed in the Budget. The district engineer, however, reports that this sum has been spent, and he proposes to provide additional funds by a re-arrangement of his allotment, his letter containing which was submitted to Government with my endorsement No. 7,043, dated 11th November 1861; consequently no provision is necessary from the one and a half lac fund.

6. In the report on the Bellary district, the road from Bellary to Ghooty is stated to be often impassable for carts; and to improve it, and the continuation to the Cuddapah frontier, by which cotton is conveyed to the coast, I have provided a sum of 18,000 rupees. The district engineer roughly estimates the total expenditure for the whole distance of 75 miles at 1,50,000 rupees.

District Engineer's letter, dated 10th May 1861, No. 19.
Bellary to Ghooty - 9,000 rupees.
Ghooty to Cuddapah - 9,000 "

7. The completion of the East Coast Canal to the Pálár river is another work of importance, which I once more recommend to the special attention of Government. In their Proceedings of the 21st July 1859, No. 1751, Government have recognised the importance of this canal, and admitted the traffic on it to be great, as noticed in paragraph 3 of Colonel Birdwood's letter, dated 31st May 1861, No. 1055, recommending a grant for this work from the reserve fund.

Extension of Sadras Canal to the Pálár, 17,000 rupees.
Proceedings of Government, 23d September 1861, No. 1273, dated 10th July 1861.

8. The completion of the repairs of the Sumpagee ghát, leading to Mangalore, which was sanctioned by Government, but for which no special grant was given from the reserve fund, is another work which it is desirable should be proceeded with and finished this year. The district engineer, South Canara, is unable to provide for this work from the general funds at his disposal, and I have, therefore, taken advantage of the offer of additional funds to supply this need, as the ghát in question is an important outlet for the trade of Mysore and Coorg.

Sumpagee ghát, 7,000 rupees.
Proceedings of Government, 23d September 1861, No. 1773.

9. The three roads from Trichinopoly to Caroor, Salem, and Arealore, entered in the list now, sent are also such as come within the above category. The two first are in the Budget for 1861-62, items Nos. 163 and 166, but the latter is under restriction (marked A). For the roads to Salem and Arealore, 5,000 rupees each were recommended from the Reserve Fund in the district engineer's letter of the 27th July 1861, No. 493, submitted with endorsement, dated 8th August 1861, No. 3728. This recommendation will, of course, fall to the ground, should the proposal to allot funds for these roads from the special one and a half lacs be approved.

Trichinopoly to Caroor, 7,500 rupees.
Ditto to Salem - 5,000 "
Ditto to Arealore - 7,500 "

10. The district engineer, North Canara, in his report, dated 20th May 1861, No. 253, proposes to lay out 7,000 rupees for the following two roads, which he states can be made useful for traffic by the end of the year:—

Moondagoode towards Bunkapore - 5,000 rupees.
Ditto " towards Palla - 2,000 "

Rs.

Palla and Bunkapore line, within North Canara limits - 2,000
Moondagoode and ditto ditto - 5,000

Rs. 7,000

Captain Walker enters fully into the state of the roads in his district, which it is unnecessary here to recapitulate, but I recommend the laying out of the above sum during the current year on the above lines, as they are portions of feeders to the principal road leading to the port of Coompta, whence cotton grown in the south Mahratta country is exported.

11. In the Madura district, the two roads noted in the margin, which are, in fact, a continuation of the same line, are proposed to be undertaken to complete the link in the cotton-road between Madura and Tuticorin, the remaining portion, with the exception of the last three miles into Tuticorin now under execution, having been made several years ago.

Madura to Kareapaty, 6,000 rupees.
Kareapaty to Orepucotta, 6,600 "

12. I beg, in conclusion, to state that I have no doubt the allotments now proposed by me will be fully availed of in the several districts, as the importance of the works for which they are recommended is recognised by district engineers in their reports thereon.

13. The district engineers' reports returned in the official memorandum, dated the 9th instant, are now re-transmitted.

MEMORANDUM of the Proposed Allotment of 1½ Lakhs.

<i>Northern Circle:</i>						Rs.	Rs.
Vizagapatam—Vizagapatam to Jevpur - - - - -						9,000	
Parvattipuram to Raigadda - - - - -						2,000	
<i>Rs.</i>						11,000	
Nellore—Ongole to Kottapatam - - - - -						14,000	
Nellore to Budwail, Dorenal Pass - - - - -						14,000	
<i>Rs.</i>						28,000	
Northern Circle - - - - -						- -	39,000
<i>Central Circle:</i>							
Cuddapah—Cuddapah to Chittoor - - - - -						15,000	
Cuddapah to Bellary, as far as frontier - - - - -						9,000	
Cuddapah to Budwail, on the road to Nellore - - - - -						5,400	
<i>Rs.</i>						29,400	
Bellary—Bellary to Gooty - - - - -						9,000	
Gooty to Cuddapah frontier - - - - -						9,000	
<i>Rs.</i>						18,000	
Madras—Extension of Sadras Canal to Palar River - - - - -						17,000	
North Canara—Moondagode, towards Bunkapoor - - - - -						5,000	
Ditto, towards Palla - - - - -						2,000	
<i>Rs.</i>						7,000	
South Canara—Sampajee Ghât - - - - -						7,000	
Central Circle - - - - -						- -	78,400
<i>Southern Circle:</i>							
Trichinopoly—Trichinopoly to Caroor - - - - -						7,500	
Ditto, to Salem - - - - -						5,000	
Ditto, to Arcalore - - - - -						7,500	
<i>Rs.</i>						20,000	
Madura—Madura to Rariaputty - - - - -						6,000	
Rariaputty to Areapucattah - - - - -						6,600	
<i>Rs.</i>						12,600	
Southern Circle - - - - -						- -	32,600
TOTAL - - - - -						<i>Rs.</i>	1,50,000

Central Office, P.W. Chepauk,
11th November, 1861.W. H. Horsley, Lieut. Colonel,
Chief Engineer.

II.
Madras.

PRECIS of Letters received from the District Engineers of Malabar, Tinnevely, and Cuddapah, on the subject of Transporting Cotton to Port.

THE District Engineer, Malabar, observes that Trunk Road No. V. is the only road in the district in which cotton is brought to Ponany *viâ* Coimbatore, Salem, and Palghat. For gravelling the worst portions of this road, the sum of 7,190 rupees (since expended) was entered in the Budget of 1860-61. Captain Bean thinks the annual maintenance allowance (7,100 rupees) insufficient to keep the line in good order, especially during the monsoon, and doubts whether the cotton growers will use the railway (to be opened in October next), as they will have to remove the produce either at Cootapoozem or Terroor, and then send it by water to Ponany, or at Puttamby, on the trunk road, the remaining distance (21 miles) being traversed by carts.

The District Engineer, Cuddapah, thinks that the only impetus to be given to the cotton trade in the ceded districts is completing the improvement of the great lines of communication to Madras and the eastern coast, and points out importance of early improvement of the road from Bellary to Cuddapah, as the trade on it in cotton is rapidly increasing. Recommends immediate expenditure of 50,000 rupees (entered in three sums conditionally in the Budget of 1861-62), on certain lines in the district. Proposes that the maintenance allowance for the road from Cuddapah towards Bellary be increased from 200 rupees to 500 rupees per mile, and that the expenditure on the direct Madras road during next official year be also increased from 10,867 rupees to 20,000 rupees.

The District Engineer, Tinnevely, thinks that a great deal can be done by improving the district roads, and bridging several black cotton soil nullahs. Proposes that money be expended on three country roads (45 miles in extent) for the sum of 20,000 rupees. Observes, that the appropriation of one-tenth of the Government gain on the pearl fishery at Tuticorin, in improving the branch cotton roads, would be very advantageous both to Government and the people.

Central Office, P. W. Chepauk,
25 May 1861.

W. H. Horsley, Lieut. Colonel,
Chief Engineer.

(No. 255).

ORDER thereon, 19th November 1861, No. 2145.

1. The Governor in Council approves of the works proposed by the Chief Engineer with the exception only of the second. The small sum (2,000 rupees) proposed for this road can be taken from the ordinary Budget funds, and the grant for the Bellary roads raised to 20,000 rupees.

2. Colonel Horsley will take care that the funds offered by the Supreme Government are not left unexpended at the close of the year. He should at once communicate his proposals as now sanctioned to the district engineer, in order that they may be prepared to commence operations as soon as the sanction of the Supreme Government is received.

3. The two small works in North Canara may be proceeded with immediately.

Ordered, that the following telegram and letter be despatched to the Supreme Government:—

TELEGRAM.

"Reply to your Circular, No. 90, of 9th October, despatched to-day. Please communicate decision thereon by telegram, and reply to letter dated 11th October, No. 1967."

J. D. Sim,
Secretary to Government.

ORDERED that the following letter be despatched:—

(No. 256.)

From J. D. Sim, Esq., Secretary to the Government of Fort Saint George, to the Secretary to the Government of India, Public Works Department; dated 19 November 1861, No. 2146.

Sir,

1. IN reply to your Circular, No. 90, dated 9th October last, I am directed by the Governor in Council to enclose a list of the works on which his Excellency proposes to expend the additional assignment of 1,50,000 rupees promised to this Presidency.

2. With one exception, these works have been selected with especial reference to the export cotton trade of the Presidency. The exceptional work is the continuation of the Southern Canal (already open from Madras to Sadras) to the Pálár river. This comes within the scope of paragraph 3 of your circular, "as having an important bearing on the public welfare." The canal (on which tolls are now levied) ends at present at an insignificant

cant village, and the traffic of the country to the south cannot be brought on it without first being conveyed across the Pálar river, and then several miles by land; when this has been accomplished, it ceases to be worth the while of the owners to take advantage of the canal for the remaining distance. The work now proposed will obviate this, and with the large demand of the Presidency town, at one terminus of the line, a great development of the trade of this part of the country may be expected.

3. You will perceive that no allotment is proposed for the two great cotton districts, Tinnevely and Coimbatore. This is in consequence of sufficient provision having already been made for them from the ordinary funds of the Presidency.

4. This Government, I am to add, can expend the proposed assignment of 1,50,000 rupees with advantage within the current official year. But to do this, it is essential that the sanction of the Supreme Government for the commencement of the works should be immediately communicated.

5. The small works (marked A), in North Canara, have been ordered for execution, in anticipation of sanction of the Governor General in Council.

6. The Governor in Council concludes that this assignment is altogether independent of the proceeds of the 1 per cent. income-tax, which amounts for Madras to about 3,60,000 rupees, and formed the subject of my letter, dated 11th October 1861, No. 1967, Revenue Department. An early reply to that communication is particularly requested.

REMARKS.

1. *Road from Vizagapatam to Jeypoor, 9,000 Rupees.*—This is a line of great importance commercially and politically. The cotton of the Nagpore country about Bustar will reach the port of Vizagapatam by it, and it is desirable to open up the wild tract of Jeypoor, which has hitherto been in a state of great lawlessness from its inaccessibility. A survey for a cart-road is being carried on, but a good bullock trace already exists from Vizagapatam to the Galikondah range of hills. The proposed grant of 9,000 rupees is for the extension of this to Jeypoor, a distance of 60 miles. The Commissioner of Nagpore has been addressed regarding the simultaneous continuation of the road into Bustar.

2. *Ongole to Kottapatam in the Nellore District, 14,000 Rupees.*—A good road has been made already from Ongole, westwards to Cumbum, in the Kurnool district. This grant is for its extension to the port and salt depôts of Kottapatam. If this link be completed, the cotton and other produce of the northern parts of Kurnool and Nellore can be shipped from Kottapatam and return loads of salt be there obtained.

3. *Nellore to Budwail in Cuddapah by the Dorenala Pass, 14,000 Rupees.*—This line leads direct from Nellore into the heart of the Cuddapah district. From Nellore there are good roads to Kistnapatam and Eskapilli, whence produce can be exported by sea and return loads of salt obtained. Kistnapatam will also be ultimately connected with Madras by the East Coast Canal.

4. *Cuddapah to Budwail, 5,400 Rupees.*—This completes the above line, and the communication between Nellore, its ports and salt depôts on the one hand, and the capital of the Cuddapah district on the other.

5. *Cuddapah to Chittoor in the North Arcot District, 15,000 Rupees.*—This is a very important line, by which the cotton and indigo of Cuddapah and Bellary find their way to Madras.

6. *Cuddapah to the Bellary Frontier, 9,000 Rupees.*—This is the main line by which the cotton of Bellary reaches Madras.

7. *Bellary to Cuddapah Frontier, 20,000 Rupees.*—This is the continuation of the above line to Bellary. A glance at the map will show its importance.

8. *Extension of S. Canal from Sudras to the Palar River, 17,000 Rupees.*—Vide paragraph 2 of letter.

9. *Moondagode towards Bunkapore in North Canara, 5,000 Rupees.*—This will connect parts of the Darwar cotton country with the port of Coompta, the communications with which are excellent. This line has been sanctioned by this Government.

10 A. *Moondagode towards Palla, 2,000 Rupees.*—Ditto - - - ditto.

11 A. *Sumpajee Ghát in South Canara, 7,000 Rupees.*—This grant will complete the repair of this important ghát, leading from Mysore and Coorg to the large port of Mangalore.

12. *Trichinopoly to Caroor, 7,500 Rupees.*—This line will connect the western part of the Trichinopoly district with its capital, from whence by land and rail its cotton and other produce may be conveyed to Negapatam for export.

13. *Trichinopoly to Salem, 5,000 Rupees.*—This road connects Trichinopoly with Salem, whence the railway affords easy communication with Madras.

14. *Trichinopoly to Arrealore, 7,500 Rupees.*—This line connects the north-east part of the district with Trichinopoly and the Madras trunk road.

II.
Madras.

15. *Madura to Rariaputty*, 6,000 *Rupees*.
 16. *Madura to Areapucottah*, 6,600 *Rupees*.

These roads (15 and 16) connect the cotton tracts of Madura with the port of Tuticorin, whence cotton is largely exported already.

N. B.—For the cotton districts of Tinnevely and Coimbatore funds have already been allotted by this Government to the full extent required this year. The same has been done for the Kaiga ghât and works at Beikal in North Canara.

J. D. Sim,
Secretary to Government.

Enclosure 17, in No. 12.

(No. 248.)

READ the following telegram from Colonel *H. Yule*, Secretary to the Government of India, to the Secretary to the Government of Madras; dated Calcutta, 18 December 1861:—

The application of the one and half lakh is entirely approved of. The three lakhs will also be given for Godavery.

Enclosure 18, in No. 12.

(No. 249.)

ORDER thereon, 19 December 1861, No. 2335.

Communicated to the Chief Engineer, who will issue the necessary orders without delay.

C. G. Master,
Deputy Secretary to Government.

— No. 13. —

REVENUE LETTER from Madras, dated 10 March, No. 13 of 1862.

1. WITH reference to the correspondence noted in the margin,* we forward the

* To Secretary of State, 22d January 1861, No. 9, para. 1. accompanying papers,† from which you will learn
 From ditto " 16th May " " 32. that the trial made with the Egyptian cotton seed in
 † Procs. of Govt., 27th June 1861, Nos. 265 and 266. the districts of Cuddapah, Bellary, Kurnool, Coim-
 " 4th Nov. " " 38 and 39. batore, and Tinnevely, has proved unfavourable.
 " 19th Dec. " " 10 (miscellaneous).

2. Such partial experiments, however, with small quantities of seed prove little. The Egyptian variety is known to have succeeded at Chingleput and in the neighbourhood of Madras; its failure in the districts above mentioned is probably owing to the seed having been injured in transit, to the selection of unsuitable soils, or improper culture. You will learn from paragraph 8 of the letter from the Board of Revenue of 15th October 1861, No. 5633, that the experiment is to be tried on a larger scale with seed supplied last year by the Manchester Cotton Supply Association; the result, when reported, will be duly made known to you.

3. The correspondence between the Board, the Collector of Ganjam, and the Chamber of Commerce, relating to Egyptian cotton, referred to in paragraph 6 of the Board's letter of 15th October above quoted, will be found among the papers now transmitted. The cotton forwarded by the Collector, though discoloured, has been declared by the Chamber of Commerce to be worth from 5½ d. to 7 d. per pound in London, and about 110 rupees the candy in Madras in the present excited state of the market.

Enclosure 1, in No. 13.

(No. 265.)

READ the following letter from *W. Hudleston*, Esq., Secretary to the Board of Revenue, to *J. D. Sim*, Esq., Secretary to Government, Revenue Department, Fort Saint George; dated Chepauk, 14 June 1861, No. 3116:—

Sir,

I AM directed by the Board of Revenue to report for the information of Government, that they have received a letter from the Honorary Secretary to the Agri-Horticultural Society, dated 10th June 1861, stating that the Manchester Cotton Supply Association have promised to send him shortly a supply of Egyptian and New Orleans cotton seed, and to request that sanction may be granted for the distribution of the seed to Collectors at the public cost. The Collectors will be instructed to allot the quantity furnished them to such persons as may be able and willing to undertake its cultivation.

Enclosure 2, in No. 13.

(No. 266.)

ORDER thereon, 27 June 1861 No. 1259.

Sanctioned.

J. D. Sim,

Secretary to Government.

Enclosure 3, in No. 13.

(No. 38.)

READ the following letter from *W. Hudleston*, Esq., Secretary to the Board of Revenue, to *J. D. Sim*, Esq., Secretary to Government, Revenue Department, Fort Saint George; dated Chepauk, 15 October 1861, No. 5633 :—

Sir,

1. ADVERTING to paragraph 2 of the Order of Government, No. 515, dated 3d April 1860, I am directed by the Board of Revenue to forward the accompanying reports from the Collectors of Cuddapah, Bellary, Kurnool, Coimbatore, and Tinnevely, on the result of the trial made in their districts with the Egyptian cotton seed supplied by Mr. Shubrick, from which it appears that the experiment has by no means proved so successful as the Board were led to expect from that conducted by Mr. Shubrick in the late district of Chingleput.

In Cons. 4 April 1860, No. 1534.

No. 94, dated 29 July, in Cons. 2 August 1861, No. 4,851.	
„ 140, dated 24, in Cons. 29 July 1861,	„ 4,690.
„ 79, dated 6, in Cons. 12	„ 4,288.
„ 163, dated 22, in Cons. 26	„ 4,664.
„ 375, dated 28 August, in Cons. 2 September 1861,	No. 5,587.

2. In Bellary a few of the seeds sown germinated, but the plants which grew to about 1½ feet withered away without producing any pods, owing, it is supposed, to the unsuitableness of the soil. Of the 50 seeds which were distributed among five ryots in Cuddapah, only one germinated, bore two leaves, and died, and a few seeds sown in the collector's garden never came up. Mr. Wedderburn adds, "Foreign cotton to succeed in this district must be cultivated like the indigenous. At present prices it cannot pay the cost of irrigation, which Mr. Shubrick seems to have applied to the Egyptian description under report." In Kurnool the seeds whether watered or not came up invariably, but the plants generally died, from what cause the collector is unable to state, at various stages of maturity. In one instance only about a seer of cotton was obtained, but the cultivator unfortunately mixed it up with the rest of his produce; the plants and pods from which it was obtained are stated to have been larger than the ordinary cotton of the district.

3. In Tinnevely there is nothing more favourable to report. One of the experimenters, the Zamindár of Ettiapuram, reported as follows:—"The seeds were sown in conformity with the instructions received on karisel (black cotton) soil in the month of October on ½ chain of land freely exposed to the sun, the ground having been previously ploughed and manured. Forty plants came up to the height of three feet. The yield was very scanty, and some of the pods withered when tender, whilst 60 pods came to maturity." Three of the pods which were sent for the Board's inspection were forwarded on the 3d ultimo, with the collector's report, for the information and opinion of the Chamber of Commerce, from whom no reply has been as yet received.

4. The experiment in Coimbatore altogether failed in consequence of the great drought at the time prevailing in the district, but the seeds sown in the collector's garden are stated to be thriving.

5. Paragraphs 4 and 5 of the Government Order, above adverted to, have been already replied to in the Board's proceedings, No. 1778, dated 13th April 1860, and in their letter No. 1997, dated 23d idem.

6. A recent correspondence with the Collector of Ganjam and the Chamber of Commerce, relating to Egyptian cotton, is also herewith forwarded, from which it will be seen that the collector is of opinion that the produce could be raised all over the district with or without special care, though a far greater yield may be expected from plants that are carefully watered, but that from superstitious motives, which he thinks remunerative prices offered on the spot would overcome, the people are at present averse to engaging in its cultivation. The larger of the two samples forwarded by the collector, the Chamber of Commerce pronounce to be of excellent staple but discoloured, and probably worth, according to the latest advices from England, 6½ d. to 7 d. per lb. in London; the smaller sample, which is also very much discoloured, about 1 d. per lb. lower. The collector has been requested to avail himself of every opportunity for dispelling the foolish objections above alluded to.

Vide Board's Proceedings, No. 2320,
dated 6 May 1861.
No. 2,900, dated 5 June 1861.
„ 2,903 „ „

7. The Board propose furnishing a copy of this letter to the Chamber of Commerce, and to Mr. Wheeler, who is engaged in the preparation of the Cotton Manual.

To Government, 14 June 1861.

From ditto, 27 "

Notice, dated 23 July 1861, Gazette,
page 180.

8. As Government are aware, a quantity of Egyptian cotton seed has been lately received by the Secretary to the Agri-Horticultural Society from the Manchester Cotton Supply Association, and is being distributed at the public expense to collectors, so that the experiment may be expected to be tried on a larger scale, when probably stronger grounds than have yet been afforded will be obtained for forming an opinion as to whether or not the product in question is likely, with proper encouragement, to become a staple of this presidency.

(In Cons. 2 August 1861, No. 4851.)

From *A. Wedderburn*, Esq., Collector of Cuddapah, dated Guvalchervu, 29 July 1861, No. 94.

In reply to a telegram, No. 11 of 17th July 1861, ordering me to report on the result of the Egyptian cotton seed supplied for trial with Board's proceedings of 9th March 1860, No. 1214, I have the honour to state that I was supplied with a few pods in March last year, and at the proper time of sowing, five ryots in Proddatur taluq were supplied with 10 seeds each; only one seed germinated, bore two leaves and died, and the cultivator declined making a further trial. I sowed a few seeds in my garden, but they never came up.

2. Foreign cotton to succeed in this district must be cultivated like the indigenous. At present prices, it cannot pay the cost of irrigation, which Mr. Shubrick seems to have applied to the Egyptian description under report.

(In Cons. 29 July 1861, No. 4690.)

From *A. Hathaway*, Esq., Collector of Bellary, dated 24 July 1861, No. 140.

I HAVE the honour to report, for the information of the Board of Revenue, that the small quantity of the Egyptian cotton seed, alluded to in the proceedings of the Board of Revenue, No. 1214 of the 9th March 1860, was distributed with the necessary instructions for its sowing.

2. I learn, however, that only a few of the seeds sown germinated, and that the plants, which grew to a height varying from 1 to 1½ feet, withered without producing pods, owing, it is supposed, to the unsuitableness of the soil.

(In Cons. 12 July 1861, No. 4288.)

From *J. I. Minchin*, Esq., Acting Collector of Kurnool, dated 6 July 1861, No. 79.

WITH reference to the proceedings of the Board of Revenue, dated 23d April 1860, No. 1978, I have the honour to state that the Egyptian cotton seed then forwarded was tried in three villages in this district.

2. In every instance the seed germinated, but the plants generally died away at various stages of maturity, and I am unable to state whether this is attributable to the carelessness of the cultivators, or the fault of the seed.

3. In one instance only about a seer of cotton was obtained from the experiment, but the cultivator unfortunately mixed it up with the rest of his produce. He states that the plants and pods were larger than the ordinary cotton of the district.

4. In some of the above experiments the plants were irrigated from wells, but the result was not more successful than under dry cultivation.

(In Cons. 26 July 1861, No. 4664.)

From *E. B. Thomas*, Esq., Collector of Coimbatore, dated 22 July 1861, No. 163.

I REGRET that it escaped me to report before on the seed alluded to in the Board's proceedings of the 9th March 1860, No. 1214. I gave some to various ryots, but the great drought from which Coimbatore at that time was suffering was fatal to the experiment, and which was also one cause of my not reporting it.

2. I have sown in my own garden, under my own eye, half of all since received, to obviate similar entire failure. It is coming on well.

(No. 4768.)

PROCEEDINGS of the Board of Revenue, dated 3 September 1861.

II.
Madras.

Read the following letter from *J. Silver*, Esq., Collector of Tinnevely, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Chepauk, dated Tenkasy, 28 August 1861, No. 375.

1. WITH reference to the Board's proceedings of the 9th March 1860, No. 1214, and to the telegram of the 17th July last, I have the honour to report that some of the native landholders in this district tried the Egyptian cotton seed in accordance with the instructions contained in the Tamil memorandum which accompanied the above proceedings, but all have reported either that the seeds did not germinate, or that the plants did not thrive with the exception of the zemindar of Ettiapuram who reports as follows:—The seeds were sown in conformity with the instructions received, on Karisel* soil, in the month of October, on 1-16th chain of land freely exposed to the sun, the ground having been previously ploughed and manured; 40 plants came up to the height of three feet. The yield was very scanty, and some of the pods withered when tender, whilst 60 pods came to maturity."

* Commonly called
black cotton soil.

2. Three of the pods† received from the zemindar are sent for the Board's inspection.

† Sent separately.

ORDERED to be communicated with the specimen for the information and opinion of the Chamber of Commerce.

To *W. R. Arbuthnot*, Esq., Chairman Chamber of Commerce,
(with specimen of Cotton).

Copy to *J. Silver*, Esq., Collector of Tinnevely.

(No. 2320.)

PROCEEDINGS of the Board of Revenue, dated 6 May 1861.

Read the following letter from *G. S. Forbes*, Esq., Collector of Ganjam, to *J. D. Sim*, Esq., Secretary to the Board of Revenue, Chepauk, dated Chetterpore, 9 April 1861, No. 83.

1. I HAVE the honour to inform you, that by this day's banghy, I have dispatched* to your address a small supply (in two parcels) of cotton raised at Kimedy from the seed lately furnished by the Board for experiment. I regret to say, that though the seed was distributed to many persons, the majority pretend that it would not vegetate, a statement which I am convinced is simply false, having sown some of the seeds myself and found them all grow. The Egyptian cotton would grow all over this district with or without special care, though, as Lieutenant Stuart has shown, a far greater yield may be expected from plants which are carefully watered.

* 1 packet.

2. I enclose a copy of Lieutenant Stuart's Letter.

(Enclosure No. 1.)

From Lieutenant *R. A. W. C. Stuart*, Assistant Agent, to *G. S. Forbes*, Esq., Collector and Agent to the Governor of Fort Saint George, dated Kimedy, 4 April 1861.

I HAVE the honour to inform you, that I have this day despatched per banghy dawk to your address, a small sample of cotton raised from the Egyptian seed you were good enough to procure for me last year. I regret that owing to the unseasonable period of the year in which the seed was planted, but very few germinated, and of these plants, some have not yielded any cotton as yet, but are just now coming into blossom. A portion of the seed you sent, I gave to the Naidoo of the village of Ranadancee. He only succeeded in raising five trees. These trees have yielded a large crop (so far as I am a judge), considering they are very small and not a year old, viz., exactly 14 ounces, and I am told by the Naidoo the trees are covered with pods at the present time. The Naidoo took great care of these plants in the way of watering, &c. The cotton raised by the Naidoo, I have put up separately and marked No. 1. The small parcel of three ounces, is the production of six trees which I raised in my garden. No care whatever in the way of watering these plants was bestowed purposely. The difference in yield is most marked. These six trees, however, are thickly covered with flowers and pods, and great care for the future will be bestowed upon them. I am told by judges that the staple I have despatched to you, is of superior quality. I should be glad, in the event of your considering it likely to be of any benefit, to despatch this sample to Madras, with a view of ascertaining the opinion of those interested in the production of cotton as to the quality. I conceive a favourable opinion might induce the people of this estate, to cultivate cotton of this description.

II. Madras.

Dated 2d in Cons.
3 March 1860,
No. 1013.

1. The Board resolve to forward a portion of the cotton received from the collector to the Chamber of Commerce, and request their opinion on its quality and value.

2. The cotton was grown from seed obtained from Captain Templer, of Chingleput, who procured it from a French gentlemen at Pondicherry.

3. Copy of the letter from the collector of Chingleput on the subject, dated 2d March 1860, accompanies.

To A. J. Byard, Esq., Chairman Chamber of Commerce.

Copy to G. S. Forbes, Esq., Collector of Ganjam.

(No. 2900.)

PROCEEDINGS of the Board of Revenue, dated 5 June 1861.

Read the following letter from *G. S. Forbes*, Esq., Collector of Ganjam, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Chepauk, dated Chatterpore, 18 May 1861, No. 117.

1. WITH reference to my letter No. 83, dated the 9th ultimo, I have the honour to forward herewith copy of a letter from Lieutenant Stuart, giving it as his opinion, that the people of this district are backward to cultivate Egyptian cotton, from motives of superstition.

2. I have certainly received from the parties, who tried, or professed to try the seed, an untrue reason for its alleged failure, viz., that the seeds did not germinate, but every grain that I put down myself came up. There may therefore be some truth in the excuse made to Mr. Stuart. I am sure, however, from my own experience in India, that if a remunerative price is tendered on the spot, anything may be grown, although the existence of the most profitable market, if it is not close at hand, seems to offer no inducement to the ryot to depart from his usual routine.

(Enclosure No. 1.)

From Lieutenant *R. A. Stuart*, Assistant Agent, to *G. S. Forbes*, Esq., Agent to the Governor, dated Kimeddy, 6 May 1861.

I HAVE the honour, with reference to the production of cotton, to notice that I am under the impression that the people of this district will not be persuaded to cultivate the Egyptian cotton for the following reasons:—A few days ago, I requested a man in this place to take some of the above cotton seed for planting; he hesitated, and on my pressing him for his reasons for not being anxious to cultivate this description, he told me that this cotton is held as sacred, and only used for making the Braminical thread, and “wicks for certain ceremonial lamps.” The party informed me that at each temple, or nearly so, some two or more plants are grown for the necessary supply of these “holy things,” and I find it is quite true. The very same description of plants, &c., so far as I am a judge, is grown in the gardens attached to the temples. I am persuaded therefore, that the people’s ignorance, as well as superstition, will prove too strong, and that this description of cotton will not succeed in this district. The people are quite willing to plant any other description, should it be furnished them.

1. Ordered, that copy of the above letter and its enclosure be communicated to the Chamber of Commerce for their information.

2. The collector will, of course, avail himself of every opportunity that may offer itself for dispelling any such superstitious objections.

To *W. R. Arbuthnot*, Esq., Chairman Chamber of Commerce.

Copy to *G. S. Forbes*, Esq., Collector of Ganjam.

(No. 2908.)

PROCEEDINGS of the Board of Revenue, dated 5 June 1861.

Read the following Letter from *W. R. Arbuthnot*, Esq., Chairman Chamber of Commerce, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Chepauk, dated Madras, 27 May 1861.

1. I HAVE the honour, by desire of the Chamber of Commerce, to acknowledge the receipt of an extract from the proceedings of the Board of Revenue, dated 6th instant, forwarding for the Chamber’s opinion, two samples of cotton received from the collector of Ganjam.

Ganjam. In reply, I am to inform you, the Chamber consider the larger sample of cotton of excellent staple, but discoloured.

2. It is, according to the latest advices from England, probably worth $6\frac{1}{2}d.$ to $7d.$ per lb. in London. The smaller sample is very much discoloured, and worth about $1d.$ per lb. lower.

Ordered to be communicated to the Collector of Ganjam for his information, with reference to his letter, dated 9th April 1861, No. 83. In Cons. 19 April 1861, No. 2397.

To G. S. Forbes, Esq., Collector of Ganjam.

Copy to W. R. Arbuthnot, Esq., Chairman Chamber of Commerce.

Enclosure 4, in No. 13.

(No 39.)

Order thereon, 4 November 1861, No. 2105.

1. THE Governor in Council regrets to learn that the result of this trial has been unfavourable. Such partial experiments, however, with small quantities of seed, prove little. The Egyptian variety is known to have succeeded at Chingleput and in the neighbourhood of Madras; its failure in the districts mentioned by the Board is probably owing to the seed having been injured in transit, to the selection of unsuitable soils, or improper culture. The want of success on this occasion should not therefore prevent further efforts.

2. The Governor in Council observes that the cotton forwarded by the Collector of Ganjam, though discoloured, is declared by the Chamber of Commerce to be worth from $5\frac{1}{2}d.$ to $7d.$ per lb. in London. It would be desirable to know what price the grower might expect for it here.

J. D. Sim,
Secretary to Government.

Enclosure 5, in No. 13.

PROCEEDINGS of the Board of Revenue, dated 4 December 1861.

Read the following Letter from W. R. Arbuthnot, Esq., Chairman Chamber of Commerce, to W. Hudleston, Esq., Secretary to the Board of Revenue.

Sir,

I HAVE the honour to acknowledge the receipt of your letter, 16th instant, forwarding copy of the proceedings of the Board of Revenue, dated 5th June 1861, and inquiring what price the grower of the Ganjam cotton, therein referred to, might expect for it in Madras.

I regret to inform you that the samples of cotton received from you are not now forthcoming, but from the recollection the Chamber has of them, and from the probable value in England previously assigned to them, it is thought that the best sample would at the present time be worth in this market about 110 rupees the candy, provided that it were delivered in a merchantable quantity.

This valuation, however, must be taken as applying only to the present excited state of the cotton market.

Chamber of Commerce, Madras,
29 November 1861.

I have, &c.
W. R. Arbuthnot, Chairman.

ORDERED to be submitted for the information of Government with reference to their proceedings, dated 4th November 1861, No. 2105, R. D.

II.
Madras.

— No. 14. —

REVENUE DESPATCH to Madras, No. 18, dated 9 July 1862.

Para. 1. I HAVE had under my consideration in Council the letters from your Government, dated the 4th and 10th March, Nos. 10 and 13 of 1862; in which you report certain measures which you have sanctioned, with the view of improving the production of cotton, both indigenous and exotic, in your presidency.

2. I observe that you have authorised the offer to a few intelligent natives, to be selected by the collectors, of a remission of assessment for five years on such spots of land (not exceeding 30 acres in each case) as they may be willing to devote to the improvement of native cotton, due care being, of course, taken to ascertain that the terms of the agreement are satisfactorily fulfilled.

3. You have also entered into an arrangement with the Madras Horticultural Society for carrying on experiments, with the same object, in their own grounds, at a monthly charge of 150 rupees.

4. In the present state of the supply of cotton, I do not object to your encouraging any attempt to improve the method of cultivation of cotton, or the quality of that produced in India, and if, under your orders, arrangements of the kind authorised by you have been made with any intelligent individuals, it is quite right that they should proceed in order that the plan adopted may have a fair trial. But I cannot approve your having given to the collectors generally a discretion to remit the permanent revenue upon land to the extent of 30 acres in favour of any persons who may display a willingness to devote the land to the improvement of native cotton. It is essential for any practical purpose that the possibility of growing the improved cotton to advantage should be shown upon lands subjected to the ordinary charges in India. And, therefore, any remission of rent is not only objectionable in principle, but renders the trial quite unsatisfactory. I therefore request that the instructions given on this subject may be withdrawn.

5. I regret to learn, that the attempts to cultivate Egyptian cotton have generally met with little success, although in Ganjam a small quantity was produced which was declared by the Chamber of Commerce to be then worth (June 1861) from 6½d. to 7d. per pound in London. It appears, however, that the people are generally averse, from superstitious motives, to cultivate this particular variety. It is to be hoped that the further experiments which you are about to try on a larger scale will yield more encouraging results.

C. Wood.

— No. 15. —

LETTER from F. J. D. Minchin, Esq., Managing Partner of the Aska Concern, to W. Hudleston, Esq., Secretary to the Board of Revenue, Chepauk, dated 3 December 1861.

29 August 1861.

1. I HAVE the honour to acknowledge receipt of the Board's letter, dated 7th November, requesting my opinion as to the best mode of giving effect to the suggestions contained in para. 10 of the Governor's Minute,* for the grant of prizes to the successful cultivators of cotton.

2. Although I have no special remarks to offer on para. 10, I take the liberty of submitting a few remarks on his Excellency's minute generally, for the consideration of the Board.

3. His Excellency, it would appear from para. 4, is of opinion, that while every encouragement should be given to the introduction of the better species of American cotton, attention should be turned to the improvement of the native cotton.

4. Not having had experience in the cultivation of cotton, I do not pre-
sume

sume to give any opinion of my own on this subject, but simply draw the attention of the Board to the letters that have appeared in the City articles of the "Times" of the 4th and 14th October, in which the writer shows the fruitlessness of all attempts to improve the native cotton, stating, that "after years of patient investigation and trial it remained a small-podded, small-seeded, short-stapled cotton." The writer proceeds to show that experiments made with the New Orleans seed had proved "quite successful;" and further, that "the plant from the New Orleans seed is quite as hardy as the native one, and more productive, and that whenever the one will produce a remunerative crop to the grower, the other will pay him better;" that "India, after her own fashion, can grow the New Orleans plant as well as the native one."

5. My quotations have been confined to the letter in the City article of the 4th October. The Board will find in this letter very interesting extracts from the report of the Select Committee on the growth of cotton in India, printed in July 1848, corroborative of the opinion that the New Orleans cotton can be successfully cultivated in this country.

6. I will now quote one paragraph from the letter in the "Times" of 14th October, and which appears to bear strongly on his Excellency's minute: "I am not undervaluing the Indian plant by any means. What we require of that cotton let us get as good and as clean as possible. It will always be grown, for the staple suits native spinning, and the other does not. The cattle live upon the seed of it, and will not eat the seed of the American cotton till they are half starved; but it does not fill up the gap made by the stoppage of American imports, and therefore I say, attend to the extension of your American cotton cultivation in India in the meantime, and never mind the native plant; it will take care of itself."

7. I would, therefore, submit "that the encouragement by every means of the introduction of the better species of American cotton," appears the only effectual way of meeting the wants of England. I observe from para. 10 that his Excellency would make "the prizes proportionate to the price of the cotton sent to market." If this suggestion be carried out, the successful competitors can only be those who introduce a superior species of cotton.

8. It may not be out of place to quote here a statement made in the Madras "Times" of 21st November. In a leader on cotton it is stated that "even at this moment, while large supplies are pouring into Liverpool from this country, there is scarcely any increase in the consumption of Indian cotton in England, for the most of it is re-exported to the Continent. With all the outcry for additional supplies, for an artificial stimulus, and a forced and non-natural production, there is scarcely a spinner who has adapted his machinery to Indian cotton."

9. It may have escaped the Board's notice that even the Egyptain cotton, which appears to have been tried pretty generally throughout the Presidency, does not apparently meet with the same favour in England as the New Orleans cotton. Mr. Haywood, in his letter to the Pasha of Egypt (vide "Times," October 3d) writes: "I would especially press upon the attention of your Highness the fact, which I have been most desirous to be informed upon, namely, that the cultivation of the American or New Orleans class of cotton is eminently adapted to the soil of Egypt. For this class of cotton the demand in the markets of Europe may be said to be unlimited; at least the demand is constant and increasing as compared with that of Egyptian cotton, of which some 80,000 bales only were required by England last year, and England consumed much more than all other countries put together. I found that 300 lbs. may be taken as the extreme production of Egyptian cotton; not less than 600 lbs. have been grown per feddan from American seed sent out by the association I represent. A sample of this cotton was valued in Liverpool at 8*d.* per pound. The average of Egyptian may be taken at 10*d.* to 11*d.* per pound. It would, therefore, appear to be the interest of your Highness as well as that of the great landed proprietors of this country to test the question, whether it would not answer to encourage the cultivation of the American variety side by side with the Egyptian, leaving it to time to determine which of the two is to be preferred. And in the event of a serious falling short in the supply from America during the next two or three years, the greatest benefit would be conferred by its speedy introduction as a staple product of your Highness's dominions."

II.
Madras.

10. I will now give a few particulars of an experiment which I have just commenced with New Orleans cotton. Messrs. Binny & Co. in the month of June sent me a small cask of New Orleans seed, with a request that I would endeavour to introduce it into the district. I at once gave out some of the seeds among certain influential natives, but owing to the wetness of the season nearly the whole failed. I sent the larger portion of the seeds to Kimeddy, which were sown in the end of October, but the heavy and unusual rain in November killed every plant. I selected, however, two sites in my own garden, in each of which I put down, between 29th June and 4th July, some 600 to 700 seeds. One site was on very swampy ground of a black soil; nearly every plant died. The other site was on high ground and of a light soil, much of it indeed rubbishy, consisting of the ruins of an old godown. Of these plants very few failed, and I have now over 600 plants in a space of about one-third of an acre. The plants are from three to four feet high, and will shortly be in full bearing. Some pods were picked as far back as the early part of October, and I have gathered up to date 8 lbs.

11. I have had the pleasure to despatch to your address a sample of this cotton cleaned in one of W. Wanklyn's cotton gins, sent out to Messrs. Binny & Co., I believe, by the Cotton Supply Association. I have also sent a sample of the uncleaned cotton just as it comes out of the pod, that the Board may have the opportunity of comparing it with any other samples that may be submitted.

12. I am desirous of trying this cotton on a larger scale. If the Board will sanction the collector making over to me 30 acres in this neighbourhood on the terms proposed in para. 9 of his Excellency's Minute, I will at once make the attempt to bring it under cultivation. I shall be quite prepared to send in the returns desired to the collector year by year.

13. Should the Board concur in my suggestion, I would respectfully point out that the land should be allotted to me without delay, as now is the time for planting.

ORDER thereon, 14 December 1861, No. 7,004.

1. ORDERED to be communicated to the Collector of Ganjam, with instructions to arrange at once for enabling Mr. Minchin to carry out his experiment on an extended scale on the terms proposed in Sir W. Denison's Minute.

2. The Board are much obliged to Mr. Minchin for his letter, which (with the samples of cotton when received) will be submitted for the information of Government.

3. Copy will be also communicated to the Chamber of Commerce and to Mr. Haywood.

W. Hudleston, Secretary.

(No. 7162.)

To *W. R. Arbuthnot, Esq.*, Chairman of the Chamber of Commerce;
To *G. R. Haywood, Esq.*, Dharwar.

Sir,

WITH reference to para. 3 of their proceedings, dated 14th December 1861, No. 7004, I am directed by the Board of Revenue to forward a small sample of New Orleans cotton received from Mr. Minchin, managing partner of the Aska Sugar Works in the Ganjam district, and to request that you will favour the Board with your opinion on the quality and value in the English market of the cotton.

W. Hudleston, Secretary.

LETTER from *G. R. Haywood, Esq.*, to *W. Hudleston, Esq.*, Secretary to the Board of Revenue, Chepauk; dated Bombay, 14 January 1862.

Sir,

1. I HAVE the honour to acknowledge the receipt of your letter, dated 23rd December 1861, together with copy of proceedings of the Board of Revenue, dated 14th December 1861, and also of the sample of New Orleans cotton therein referred to, which have reached me here.

2. In accordance with the request of the Board, I have examined the sample of cotton, and find it to be of excellent quality, well cleaned, and of good colour; it is superior to the average of "Dharwar saw-ginned American" now selling in Bombay, and which ranks highest of all Indian cottons; its value in Liverpool (according to latest intelligence of prices) would be about 10 *d.* per pound. If this cotton can be produced in quantity and delivered in Liverpool equal to sample, it will be eagerly sought after.

2. In paragraph 10 of Mr. Minchin's letter it is said that this cotton was "grown in his own garden." It is often stated by writers in the papers, and others, that such "garden experiments" are not worthy of notice; but it should be remembered that the "plantations" of the Southern States are nothing but a system of garden cultivation on an extensive scale, carried out by forced labour under constant supervision. There have been numerous instances of "experimental culture" in India producing as large a quantity per acre as is obtained from equal area in the United States; doubtless owing to the conditions of growth as to season, soil, climate, and mode of cultivation having been carefully studied by the European. What has been accomplished on a limited scale may very probably be achieved extensively by Europeans willing to make the attempt.

4. In paragraph 6, the opinions of a correspondent of the "Times," October 14th, are quoted. He says, "Never mind the native plant." This is very bad advice. It is true that Lancashire requires for the bulk of its consumption cotton similar to Dharwar American, and the sample you have sent. But I am informed by my last letters from England, that the cotton spinners of Lancashire are now giving more attention to the merits of the native Indian cotton. Dholera, it is found, can be spun not merely into 20's or 30's, but even into 40's, 50's, and as high as 60's. A spinner, in writing to the "Manchester Guardian" says:—"Give me cotton similar to the samples I have seen at the office of the Cotton Supply Association, and I care not whether I ever see another bale of American cotton." It appears to be a question of the adaptation of machinery to the purpose. If this can be effected with economy, and there are spinners who state that they have accomplished this object, a new impulse will be given to the growth of cotton in India, and the question of dependence upon America will be in a fair way of solution.

5. An erroneous inference has been drawn in paragraph 9, from a statement contained in my letter addressed to his Highness the Pacha of Egypt. It is said by Mr. Minchin, "that even the Egyptian cotton does not apparently meet with the same favour in England as the New Orleans cotton." Mr. Minchin appears not to be aware that Egyptian cotton is used in the spinning of a finer class of goods than are manufactured from New Orleans and Indian cotton. "Sea Island," "Egyptian," and "Brazilian" cotton, are the higher or finer qualities used in the manufacture of fine goods, muslins, &c. During the first ten months of 1861, 91,261 bales of Egyptian cotton only were imported into Great Britain, against 1,791,146 bales of American. Both descriptions are required, though for different purposes. Hence in the paragraph of my letter to the Pacha, quoted by Mr. Minchin, I state that the two species might be "encouraged side by side," with a view to test which description would best pay the cultivator, the one commanding a limited, the other an almost unlimited market. Brazil grows a description similar to the Egyptian, and if Egyptian fell off, would be able to make the deficiency. It is therefore erroneous to suppose that the "Egyptian" does not find the same "favour in England as the New Orleans cotton."

ORDERED to be communicated to Mr. Minchin, to the Collector of Ganjam, and to the Chamber of Commerce, and that copy be submitted for the information of Government.

W. Hudleston, Secretary.

II.
Madras.

— No. 17. —

(No. 454.)

LETTER from the Honourable *R. O. Campbell*, Chairman of the Chamber of Commerce, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Madras; dated 30 January 1862.

Sir,

1. I HAVE the honour to acknowledge receipt of your letter* of the 23d December last, to the address of Mr. W. R. Arbuthnot, forwarding a sample of cotton, grown from New Orleans seed, by Mr. Minchin at Aska, and requesting the opinion of the Chamber upon its quality and its value in the English markets.

2. The sample has been circulated to the Chamber, whose opinion is that it is of excellent quality, though rather short in staple for cotton grown from New Orleans seed.

3. It is difficult, in the present excited and unsettled state of the cotton market to affix a value to the sample sent, but it is considered that with "good fair" Tinnevely (valued) at 8*d.* the pound, cotton of the value of the sample would be worth at least 10*d.* the pound in the English markets.

ORDERED to be communicated to the Collector of Ganjam, and to Mr. Minchin, and that copy be submitted for the information of Government.

W. Hudleston, Secretary.

— No. 18. —

(No. 518.)

EXTRACT of Proceedings of Board of Revenue, 5 February 1862, No. 788.

LETTER from *A. Wedderburn*, Esq., Collector of Cuddapah, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Chepauk; dated Budwail, 18 January 1862, No. 6.

Sir,

WITH reference to the proceedings of the Madras Government, under date 29th October 1861, No. 2,069, and order of the Board, dated 1st November 1861, No. 5,995, I have the honour to inform you that I made local inquiry in the chief cotton taluqs of the district, with regard to the proposal to give a certain portion of land rent-free for five years, on the condition of cotton being grown exclusively upon it, and I have ascertained that cotton grown continuously on the same land for five years, would by no means prove a favourable experiment. The experienced cultivators allege that the produce of land sown continuously with cotton would be much deteriorated, and that they consider it necessary to alternate the cultivation with a grain crop; even as it is, the indigenous cotton cultivated in land which yields a luxuriant grain crop is a stunted and apparently degenerated plant, and that it would become more so if perennially cultivated on the same land, and extracting the same constituent parts of the soil from it, can hardly be doubted. Even in America, which has a climate and soil far better fitted than Cuddapah for cotton cultivation, a rotation of crops, in which cotton is cultivated only every second or third year, is found the most advantageous course in poorer soils and less favourable climates. I would beg to suggest, therefore, a modification of the rule which requires that cotton should be raised perennially from the same land, or else that a local prize should be granted to the exhibitor of a candy or 500 lbs. of the best seed cotton grown in one field. A prize of 200 or 300 rupees, adjudged on the spot, will have a greater effect in stimulating care in the cultivation and clean picking of the cotton crop, than the knowledge of a larger prize to be adjudged elsewhere, in which the cotton cultivators appear to take no interest, and for which they are unlikely to compete.

1. THE Collector has misinterpreted the orders of Government and the Board.

2. There

2. There is nothing in either that requires the cultivation to be pursued for five consecutive years on actually the same identical plot of land, if the ryot has the means of shifting it, and thus securing a rotation of crops. All that is required is, that the same individual shall cultivate the same extent of land with cotton annually, with due attention to the selection of the seed, and to the other conditions of the experiment laid down by Government.

3. The Collector will please to submit his matured views on the question of the prizes in a separate letter in due course.

W. Hudleston, Secretary.

— No. 19. —

(No. 302.)

EXTRACT Proceedings Board of Revenue, 12 April 1862, No. 2448.

From *A. Wedderburn*, Esq., Collector of Cuddapah, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Madras; dated 28 March 1862, No. 31.

Sir,

1. WITH reference to the Proceedings Board of Revenue, dated 5th February last, No. 788, requesting me to submit a matured scheme of awarding prizes for the successful cultivation of cotton in this district, I have the honour to propose the following arrangement:—

1st. The sum of 500 rupees to be assigned as prizes in Cuddapah district.

2d. The first prize of 250 rupees to be awarded to the exhibitor of the best bale of cotton, either foreign or indigenous, of the usual weight of 250 lbs., the above to be the production of a field, or fields, under the same proprietor.

3d. The second prize of 150 rupees to be awarded to the next best bale, under the same conditions.

4th. The third prize of 100 rupees for the third best bale.

5th. If there are two bales of the highest quality equal, 200 rupees to be assigned to each, and 100 rupees to the next.

6th. If there are two of the second quality equal, they shall be equally assigned 150 rupees.

7th. A sub-committee to be appointed in the cotton táluqs, and to assemble at Jummalamadgu after the cotton harvest, in the month of June 1863, to select the best specimens, mark the bales, and forward them to Cuddapah, and to consist of the deputy collector Royappa, tahsildár of Jummalamadgu, and Mr. Spencer, resident of Jummalamadgu, with powers to select three native cotton merchants as coadjutors.

8th. A chief committee to assemble at Cuddapah on the 15th July 1863, and to consist of the session judge, collector, and J. W. Sawlfelt, Esq., agent to Messrs. Arbuthnot & Co., with power to add to their number, to confirm the award, and to adjudicate the prizes.

9th. The cotton bales marked and sealed shall be accompanied by a certificate from the tahsildár of the táluq that the produce is *boná fide* the growth of a certain extent of land under a single proprietor, and that it has been gathered and packed under supervision.

2. As it would be inconvenient to require the chief committee to assemble in the cotton táluq, and as Jummalamadgu Cusba is the head quarters of the cotton cultivation; and as the requirement of the cotton cultivators to bring all their specimens to Cuddapah to be adjudicated upon would end in failure, I have proposed the sub-committee as aforesaid. The primary selection of the

II.
Madras.

best samples close to the place where they are grown, would embolden the ryots to come forward, and the character of the sub-committee is such as to implant the highest confidence. My experience of the result of agricultural exhibitions in Cuddapah is not such as lead to the expectation that the ryots will carry their produce any distance for the mere chance of getting a prize.

3. The following proposed rules regarding the selection of the cotton of prizes are herewith submitted:—

Requisites :

1. Colour and cleanness.
2. Strength of staple.
3. Length of staple.

4. I do not assume to be acquainted with the cotton trade; but I have suggested what appears to me to be the first requisites for the home market, where dirty cotton is not bought up except, I understand, in the direst necessity; cleanness and colour I therefore place first; next is the strength of staple; the length depends, I believe, on the nature of soil and cultivation; but if the fibre be brittle, it is obvious that short strong cotton must be more useful than long brittle cotton. Strength, fineness, and length of wood combined, would, of course, if properly cleaned, gain the first prize.

5. It is probable that the competition will be restricted to the indigenous cotton. Foreign cotton is only grown in gardens as a curiosity, and I doubt if a bale could be collected from the whole district at present.

6. Such are the suggestions I have to offer, and I beg that the Board will be pleased to favour me with their instructions and amendments, in order that due notice may be given in the district Gazette of the proposed prizes.

The Board approve of the collector's scheme for awarding prizes for the successful cultivation of cotton, and he is perfectly correct in supposing that the only hope of bringing the experiment to a successful result is by fixing the locality of the exhibition in close vicinity to land cultivated. The Board, however, in deciding on the prizes, would be disposed to consider length and fineness of staple before strength of staple. The collector's attention is drawn to para. 9 of his Excellency the Governor's minute on the subject, as he has not informed the Board what extent of land he proposes to devote to the experiment.

R. A. Dalyell, Sub-Secretary.

(No. 303.)

ORDER thereon, 16 May 1862, No. 1081.

THE proceedings of the Board of Revenue are approved. Their attention will be drawn to para. 2 of the order of Government, 29 October 1861, No. 2069, with a request to make suitable provision for the cotton prizes in the budget for 1863-64.

J. D. Sim, Secretary to Government.

— No. 20. —

(No. 75.)

From *A. Wedderburn*, Esq., Collector of Cuddapah, to *R. A. Dalyell*, Esq., Sub-Secretary to the Board of Revenue, Madras; dated Muddenpully, 29 April 1862, No. 49.

Sir,

1. WITH reference to the Board's remark in their proceedings of 12 April 1862,* No. 2448, "calling the collector's attention to para. 9 of His Excellency the Governor's Minute on the subject (of cotton improvement), as he has not informed the Board what extent of land he proposes to devote to the experiment,"

* On Government proceedings, May 1862, Nos. 302 and 303.

ment." I have the honour to state, that as the institution of a prize for produce, and the remission on land devoted to cotton improvement, were ordered* to be reported on separately, I have not adverted to the latter subject in my letter regarding the prizes.

2. I intend to report fully hereafter on the latter subject; but previous to entering into arrangements for the remission of revenue for cotton experiments, I wish to publish Dr. Wight's† opinion regarding the feasibility of cultivating the American cotton, and think that the cultivators should have this before them, in order that a valuable experiment may be made by themselves regarding the possibility of growing the American cotton if they are disposed to give it a trial.

3. If Dr. Wight's opinion be correct, that American cotton can be grown on equal terms with the indigenous, that is, on unirrigated land, it will solve a question of much importance, and the present liberality of Government will afford a means of making the trial: all "flower-pot experiments," as Mr. Cassels remarks at the end of his *Bombay Handbook*, "being worse than useless."

4. It is to be considered that if Government gives up the rent of the land, the cultivator risks, at the same time, his time, labour, and certainty of growing a remunerative crop, for an experiment calculated to benefit others as much as himself.

5. No conclusive, or indeed any but the most petty experiment, having as yet been made in this district with reference to American cotton, the present offer of remission appears a most favourable opportunity of trying the experiment.

ORDERED to be submitted to Government, in continuation of the Board's Proceedings, dated 12 April 1862, No. 2448.

W. Hudleston,
Secretary.

Order thereon 6 June 1862, No. 1244.

— No. 21. —

(No. 5373).

READ the following letter from *A. Wedderburn, Esq.*, Collector of Cuddapah, to *W. Hudleston, Esq.*, Secretary to the Board of Revenue, Madras; dated 8 August 1862, No. 115:—

1. With reference to the Proceedings of the Madras Government, No. 1244, dated 6th June 1862, communicated in the Board's Proceedings, dated 9th June 1862, No. 3682, I have the honour to submit for approval 16 applications, as per margin, for land of an aggregate of 587 acres 2 coontahs; assessment, Rs. 595. 13. 1., to be devoted to cotton improvement during the next five years, commencing with Fasli 1272 (July 1862). The applicants are willing to try foreign seed, which will afford a valuable experiment on a large scale during the current year, and I have received some, and applied for more to the secretary of the Horticultural Society; as the New Orleans seed was not procurable, Egyptian will be tried this year as well as the Peruvian, which Government have lately despatched.

	Extent.	Assessment.
	<i>A. c. v.</i>	<i>Rs. a. p.</i>
4 Balreddy and three others of Jammalamadgu taluk.	214 7 13	140 1 11
6 Yerragunla, Peddannah, and five others of Pulivendla taluk.	184 35 6	164 3 8
6 Chinna Dandloor, Yaddulu Jyavaru Reddy, and five others of Proddatur taluk.	187 38 13	291 7 6
16 TOTAL —	587 2 —	595 13 1

2. I beg

* Board's Proceedings, dated 11 March 1862, No. 1610, on Collector of Cuddapah's letter of 18 January 1862, No. 6.

II.
Madras.

2. I beg that the Board will allow me to charge the expense of the cart-hire for the seed in my contingent account, as an advance, until I have distributed it to the cultivators, when the same will be realised and credited to Government.

1. THE arrangement authorised by Government sanctioned the remission of assessment for five years on cotton cultivation carried on under specified conditions to a few intelligent natives in different parts of the country, on an extent of land not exceeding 30 acres in each case.

2. Mr. Wedderburn proposes to remit the assessment on 587 acres, divided among 16 occupants, giving on an average 36 acres to each, the assessment being Rs. 595. 13. 1., or a little more than one rupee per acre.

3. Assuming that the collector has carefully selected the individuals, and that they are men who will work the experiment *bonâ fide*, and fulfil the conditions, the Board confirm the selection.

To A. Wedderburn, Esq., Collector
of Cuddapah.

W. Hudleston,
Secretary.

— No. 22. —

READ Proceedings of the Madras Government, dated 16th May 1862, No. 1081, Revenue Department, approving of the Board's proceedings, submitting a scheme from the Collector of Cuddapah for awarding prizes for the successful cultivation of cotton, and requesting them to make suitable provision for the cotton prizes in the budget for 1863-64.

(No. 1006.)

ORDER thereon, 24th May 1862 (No. 3375).

1. ORDERED to be communicated to the Collector of Cuddapah, who will take care to make the necessary provision in his budget for 1863-64, as desired by Government.

2. The Board observe that Mr. Wedderburn's scheme of prizes does not appear to effect all that was proposed in paragraph 10 of Sir W. Denison's minute, circulated by the Board, under date 1st November 1861, inasmuch as it provides for prizes in only one year, and that the first after the commencement of the experiment.

3. He will please to explain whether the prizes are to be open to all cotton growers in the district, and whether they are to be offered for competition on one occasion only, viz., in 1863.

4. He will state whether he consulted the gentlemen whom he proposes to associate with himself in awarding the prizes, before he submitted his scheme to the Board.

To A. Wedderburn, Esq., Collector
of Cuddapah.

W. Hudleston,
Secretary.

— No. 23. —

READ the following Letter from A. Wedderburn, Esq., Collector of Cuddapah, to W. Hudleston, Esq., Secretary to the Board of Revenue, Madras; dated Madanapalli, 29 May 1862 (No. 67).

Sir,

1. WITH reference to the Proceedings of the Board of Revenue, dated 24th May 1862 (No. 3375), requesting me to explain whether the proposed prizes for cotton are to be open to all growers, and whether they are to be offered for competition on one occasion only, I have the honour to state, that my intention was that

that the prizes should be open to all growers in the district, and that, until I could judge of the effect by the competition of 1863, I did not propose that the cotton prizes should be an annual institution. If the offer of prizes proved a failure in producing any marked improvement in the quality of cotton, all which as yet is a matter of experiment, there would be no use in repeating the offer of prizes.

2. With regard to the remark in the last paragraph of the Board's proceedings, I have the honour to state, that being perfectly certain that Messrs. Spencer and Saaltfelt would co-operate with me in any plan for public improvement, and would feel their nomination as a compliment, I did not think it necessary to write to them; and as it is impossible to say who will be the Sessions Judge in July 1863 (the office has been represented by three separate parties within a month), and as it was very unlikely that Mr. Davidson would hold the office, or could pledge himself for his successor, I thought it of more importance to submit the scheme for the Board's approval than to lose time in correspondence. Should any of the gentlemen named be unwilling or unable to serve on the committee at the time appointed, there will be no difficulty in finding a substitute; and in a district where so many changes and much sickness occur, it seems of little use making fixed personal arrangements, which may all be upset before the arrival of July 1863.

1. ORDERED to be submitted for the information of the Government, with copy of the Board's proceedings, to which the Collector replies.

2. The Board do not consider it necessary to propose any change in Mr. Wedderburn's plan for offering prizes, but they do not concur in his opinion that the success or failure of the experiment can be determined from the results of one year.

W. Hudleston, Secretary.

— No. 24. —

(No. 307).

READ the following Letter from Messrs. *Line & Co.*, to *T. Pycroft, Esq.*, Chief Secretary to Government, Fort St. George; dated Madras, 24 March 1862.

Sir,

1. We have the honour to annex copy of a letter from the Secretary to the Cotton Supply Association, dated Manchester, 22d January 1862.

2. It being the desire of the association that the collection of cotton samples forwarded should be exhibited in some public museum, or place of resort where they would prove useful, we have the honour to inform you that we shall be glad to place them at the disposal of the Government for the purpose above named.

3. Should further collections of sample be required for any of the districts of this Presidency, we shall be happy to communicate the wishes of the Government to the association.

4. We have forwarded sample packets of middling New Orleans cotton to several of the cotton districts; but if the Government would specify the collectorates to which they would more particularly desire their transmission, we shall be glad to attend to their wishes.

Enclosure in No. 24.

From *T. O. Sutton, Esq.*, Interim Secretary, to Messrs. *Line & Co.*; dated Manchester, 22 January 1862.

Dear Sirs,

1. CONFIRMING my respects of the 8th instant, I beg to inform you that we propose to forward to you, by the Calcutta mail, which leaves on the commencement of next month, two packages of cotton samples. One consists of middling Orleans samples, which are prepared

II.
Madras.

prepared with view to their distribution amongst cultivators and others, who may learn from such tangible and ocular evidence, far better than from any written description, the kind of staple which is chiefly wanted here, and the level to which the quality of their own produce must rise if it is to hold its own in the British market against that from the Southern American States. The second packet contains specimens of the various kinds of cotton usually consumed in this country, with names attached; the value of each sample at Liverpool, on December 18th, you will see stated on a list forwarded herewith. It will be borne in mind that these prices are very greatly in advance of the average, as otherwise they would be calculated to mislead. For instance, middling New Orleans, quoted at 10½*d.* would, in an average of several years past, be quoted about 6½*d.* per lb. This collection is made up for exhibition in some public museum or place of resort, where they would be likely to prove useful; perhaps you may be able to place them advantageously; and if more could be disposed of, we should be happy to supply them.

2. The packet of middling Orleans samples will shortly be followed by a much larger one. The Committee are extremely anxious to have these widely distributed, and on your kind co-operation in this matter they firmly rely; possibly, if communicated with, your local Government might permit its agents in the agricultural districts to render assistance.

3. I may add that each sample of middling Orleans has an explanatory circular enclosed, as well as a photographed sheet, showing the length and price of various descriptions of staple; in some cases the enclosures may be of little use, but in many others we trust they may serve the intended purpose.

LIST.

Number 1.	Sea Island Cotton, worth	- - -	21 <i>d.</i> per lb.
" 2.	Stained Sea Island Cotton, worth	- - -	12 "
" 3.	Egyptian Cotton, worth	- - -	12 "
" 4.	Pernambuco Cotton, worth	- - -	11½ "
" 5.	Fair Orleans Cotton, worth	- - -	11½ "
" 6.	Middling Orleans Cotton, worth	- - -	10½ "
" 7.	Broach Surat Cotton, worth	- - -	8 "
" 8.	Saw-ginned Surat Cotton, worth	- - -	7½ "

18 December 1861.

(No. 308).

ORDER thereon, 23 April 1862, No. 873.

1. ORDERED that the Board of Revenue be requested to report the arrangements they would propose for the exhibition of these specimens of cotton in the provinces.

2. Messrs. Line & Co. are requested to send two sets of the specimens to the officer in charge of the Madras Museum, who will place them where they will attract the attention of visitors, and be readily available for examination.

J. D. Sim,
Secretary to Government.

— No. 25. —

(No. 95.)

From Captain J. Mitchell, Officer in Charge of the Government Central Museum, to J. W. Breeks, Esq., Private Secretary to his Excellency the Governor; dated Madras, 21 April 1862.

My dear Sir,

1. ON the 4th instant, I had the honour to acknowledge the receipt of certain samples of cotton that were forwarded with your letter of the 3d April 1862.

2. The examination of these samples has occupied all the time I could command since that date, and it is now my duty to report the result. I fear his Excellency Sir W. Denison will consider it a very inadequate return for the time devoted to it. It certainly appears so to me.

3. I have considered it advisable to send *in full* all the measurements that I have made of the *diameter* of the fibre, because it seems to me that a mere average is calculated to give a very erroneous idea of cotton as it really is. With the whole of the measurements before him, his Excellency will be able to see the data on which the averages are founded.

4. The

4. The measurements were made with a cobweb micrometer, the divisions of which (with the object glass used) have a value of $\frac{1}{133,833}$ of an inch; this quantity, 133,833, therefore, is the common denominator of fractions, of which the micrometer readings entered in the several columns of the table are the numerators.

5. As it would have been obviously unsatisfactory to select any particular kind of fibres for measurement, the plan I adopted was to tease out a pinch of the cotton until it lay pretty smooth; from this I detached as thin a stratum as possible of about half an inch in width, which was placed on the compressorium in water. Then, commencing at one end, I passed the different parts in succession across the field of the microscope, and measured those that lay flattest and best situated for that purpose, without reference to their size or form. I did not at first note in the table the form of the fibres, but after a time it occurred to me to do so, as it is evident that the diameter of a flat thin fibre will, as a rule, be greater than a cylindrical one; indeed, it follows as a matter of course, that if one portion of a hollow cylinder be pressed flat, it must measure half as much more than the cylindrical portion, *i.e.*, in the ratio of the semi-circumference to the diameter.

6. You will observe that I have used the terms round, roundish, flat, flattish, in the table. I apply the term "round" to a fibre that is *apparently* round and solid, with considerable opacity, somewhat like a stout hair, but I do not mean to assert that such are in reality solid cylinders: they are possibly flattish fibres rolled up in such a way as to appear solid, and I reserve that point for further examination.

7. Those termed "roundish" have a light line along their axis when seen at the proper focus, an effect often seen with hairs, and which led to the idea of hairs being tubular.

8. The "flattish" fibres have this line wider, and a more or less broad opaque margin, which is rounded off so as to give the idea that a transverse section would be an ellipse of greater or less eccentricity.

9. The "flat thin" fibres are exceedingly thin, flattened tubes, like pieces of ribbon, and without any appearance of internal thickening from secondary deposits.

10. You will see by the following quotations, that the use of some terms to describe the nature of the fibre was a necessity. Whether there be any kind of cotton in which a riband-like band is the common form I have yet to learn; but in the samples I have examined, a flat riband-like fibre is *not* the rule, and in some varieties it is *almost a rare exception*. To proceed.

11. The late Professor John Quekett, in the 1st volume of his "Lectures on Histology," speaking of cotton fibres, says they "are recognised as flattened and more or less twisted bands;" and his figure represents, as well as a wood engraving can be expected to do, what I call "thin flat fibres." The writer of the article "Cotton" in the English Cyclopædia (A.D. 1854), says, "they (*i.e.* the fibres) are long, weak tubes, which, when immersed in water, and examined under the microscope by transmitted light, look like flat, narrow, transparent ribands, all entirely distinct from each other, and with a perfectly even surface and uniform breadth. Professor Henfrey, "Micrographical Dictionary," is nearly as bad; he says, "from the absence of the regular thickening layers, the cells of the cotton hairs become collapsed when dry, appearing like a thin band with thickened borders."

12. I have said I have not found the above descriptions to apply otherwise than exceptionally; but I should mention here, that in some of the samples small knots remained after the cotton was traced out with the fingers, and that I examined several of these knots, and found them composed (almost entirely) of very thin, weak, flat fibres, much entangled.

13. Although it seems probable that the quality of cloth produced, and the facility of working, must depend materially upon the *form* of the fibre, yet great stress is laid upon its length. It is, therefore, with much regret that I am obliged to say I have not been able to devise any easy and practical method of

II.
Madras.

measuring *single* fibres. The exceeding tenuity of the fibre, say as a mean $\frac{1}{1200}$ th of an inch in diameter, renders it impossible to apply it to an ordinary scale, and the only method I can see is to cement them to a glass slide, which can then be applied to a scale ruled on glass for the purpose. This is exceedingly tedious and very trying to both eyes and head, from the impossibility of seeing the fibres without a lens; I therefore abandoned it for the method adopted (I believe) by the broker and manufacturer, of repeatedly drawing a small portion through the fingers until it appears to be nearly all in line, and then measuring these small tufts.

14. It is necessary also to observe that there is no equality of form or diameter in the individual fibres, which are in one part round, in another flattish and twisted, appearing varicose; spreading out into a flat, thin fibre for some distance, to become again contracted, &c. This variation of form seems to render anything like a standard of measurement next to impossible.

15. I have sent herewith the small tufts of cotton from which the lengths entered in the table were obtained. His Excellency's proposition to draw lines on paper exhibiting the average length of the several staples is, I think, a very good one. I would, however, suggest that a broad black line on white paper, while quite as well seen as a white line on black paper, would be more readily executed; the latter method, I fear, would require wooden blocks engraved for the purpose. It should be accompanied by a short description of the way in which a small tuft is to be prepared for measurement. The photo-lithograph sent by the Cotton Supply Association is not very plain, and unaccompanied by any explanation it seems likely to be misunderstood; for a friend of mine, who has taken some interest in cotton cultivation, told me he thought it was intended to represent seeds with the adhering fibres simply stretched out. If an educated man could fall into this error, it would not be strange if the native cultivator should find it hard to understand.

16. I will not detain this Report longer, but will endeavour to prepare a memorandum on the subject of measurement, to be forwarded hereafter.

P.S.—1. In a note dated 22d instant, with which I was favoured, his Excellency Sir W. Denison was good enough to suggest the possibility of obtaining a better knowledge of the structure of cotton fibres by means of transverse sections.

2. The subject is a very difficult one, as the sections require to be so exceedingly thin, less than one-thousandth of an inch. I am not, therefore, surprised that I did not succeed. But my failure to obtain transverse sections, properly so called, led me to cut as obliquely as possible through the fibres, and this method has revealed all I wanted to know; for the sloping extremities of the fibres thus obtained, show beyond a doubt that in all, except the very thinnest, there is a greater or less amount of secondary deposit, which in the round, roundish, and flattish ones is carried to such an extent as to form a (?) homogeneous solid body, instead of a hollow cell or tube, but in the flattish fibres the deposit appears thickest at the margins. The same result was subsequently arrived at by examining the cut extremities of other portions with a half-inch object glass and Lieberkuhn's reflector. This method of examination not only confirmed the results of the other, but exhibited also the very irregular form of the transverse section.

3. I have also examined the fibres by polarised light, upon which I find the thin flat fibres have little or no action, being nearly, sometimes altogether, invisible, when the axes of the Nicol's prisms are crossed. But they become visible when a film of selenite is interposed between them and the polarising prism.

Progressive Number.	Description of Cotton.	Length in Inches.		Readings of Micrometer Head.												Sum of Micro-meter Readings.	Mean of all the Readings.	Mean Diameter of Fibres in Fractions of an Inch.
		First Tuft.	Second Tuft.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.			
Quality most in request	1 American Medium	1.25	1.4	110	131	138	108	124	119	146	117	111	121	110	81	1,416	118	$\frac{1}{11\frac{1}{2}}$
	2 Ditto	-	-	137	126	117	117	114	114	125	127	155	136	133	136	1,537	128	$\frac{1}{10\frac{1}{2}}$
	3 Ditto	-	-	139	120	139	147	140	131	117	147	131	145	118	94	1,568	130 $\frac{1}{2}$	$\frac{1}{10\frac{1}{2}}$
	4 A. H. Society's, New Orleans	1.25	1.25	88	114	85	119	106	121	112	115	101	112	129	109	1,311	109 $\frac{1}{2}$	$\frac{1}{12\frac{1}{2}}$
C	5 Ditto - - ditto	-	-	27	Round, 49	Thence flat 79	73	98	114	82	102	101	125	108	92	1,050	87 $\frac{1}{2}$	$\frac{1}{15\frac{1}{2}}$
	6 A. H. Society's, Egyptian	1.53	1.5	102	91	24	46	Round, 53	88	127	84	94	Thin, flat, 103	101	102	1,015	84 $\frac{1}{2}$	$\frac{1}{13\frac{1}{2}}$
	7 Ditto - Brazilian	1.5	1.65	85	139	133	121	156	130	133	78	154	123	103	74	1,429	119	$\frac{1}{11\frac{1}{2}}$
	8 People's Park, Egyptian	1.5	1.5	135	81	103	173	Round, 119	Roundish, 113	Round, 53	Round, 109	Flat, thin, 169	Round, 86	51	142	1,334	111	$\frac{1}{12\frac{1}{2}}$
A	9 Ditto - Bourbon	1.25	1.25	93	110	119	112	92	126	94	89	119	116	101	51	1,222	102	$\frac{1}{13\frac{1}{2}}$
	10 Ditto - Brazilian	1.3	1.45	117	116	135	137	106	138	160	151	109	126	105	78	1,498	125	$\frac{1}{10\frac{1}{2}}$
	11 Ditto - Egyptian, 2d sample	1.3	1.42	99	97	91	134	88	106	105	118	103	94	97	107	1,239	103 $\frac{1}{2}$	$\frac{1}{12\frac{1}{2}}$
	12 B. Nellore	1.23	1.27	136	Round, 64	134	108	171	Round, 61	Round, 51	170	136	119	151	127	1,428	119	$\frac{1}{11\frac{1}{2}}$
English Samples	13 No. 1, Sea Island	1.65	1.65	55	Round, 107	Flat, thin, 100	135	Flat, 124	Flatish, 110	Round, 71	Round, 100	96	132	102	67	1,199	100	$\frac{1}{13\frac{1}{2}}$
	14 Continued	-	-	105	Roundish, 75	Round, 91	Round, 50	Flatish, 102	Flatish, 129	Flatish, 115	Roundish, 102	Round, 81	Roundish, 96	Flat, 116	133	1,195	99 $\frac{1}{2}$	$\frac{1}{13\frac{1}{2}}$
	15 No. 2, ditto, stained	1.6	1.7	Round, 87	Flatish, 63	Flatish, 105	Flat and very thin, 154	Flat and very thin, 110	Flatish, 120	Flat and very thin, 109	Round, 49	Round, 41	Roundish, 97	Flatish, 85	57	1,077	89 $\frac{1}{2}$	$\frac{1}{14\frac{1}{2}}$
	16 No. 3, Egyptian	1.55	1.6	Flat, 94	Flatish, 82	Flat, 111	Roundish, 83	Round, 100	117	Flatish, 117	Flatish, 91	Flatish, 86	Roundish, 104	Flatish, 107	95	1,187	99	$\frac{1}{13\frac{1}{2}}$
English Samples	17 No. 4, Pernambuco	1.4	1.45	Flatish, 110	Flat, thin, 139	Flatish, 149	Flatish, 134	Flatish, 74	Flat, 133	Flatish, 140	Round, 95	Flat, thin, 171	Round, 86	Round, 70	163	1,504	125 $\frac{1}{2}$	$\frac{1}{10\frac{1}{2}}$
	18 No. 5, Fair Orleans	1.35	1.23	Flatish, 110	Flatish, 116	Round, 85	Roundish, 107	Round, 83	Round, 81	Flat, thin, 148	Thick, twisted, 136	Flatish, 140	Thick, flatish, 189	Flatish, 129	143	1,467	122 $\frac{1}{2}$	$\frac{1}{10\frac{1}{2}}$
	19 No. 6, Midding ditto	1.33	1.25	Flatish, 154	Round, 111	Flatish, 116	Flatish, 128	Flat, 137	Round, 88	Round, 80	Round, 97	Flatish, 122	Roundish, 140	Flatish, 112	106	1,388	115 $\frac{1}{2}$	$\frac{1}{11\frac{1}{2}}$
	20 No. 7, Breach, Surat	1.15	1.25	Roundish, 129	Roundish, 84	Flat, thick, 106	Flat, thin, 175	Flatish, 130	Roundish, 62	Flatish, 94	Flatish, 120	Round, 67	Flatish, 137	Round, 63	110	1,277	106 $\frac{1}{2}$	$\frac{1}{12\frac{1}{2}}$
English Samples	21 No. 8, Saw-ginned, Surat	1.1	1.2	Roundish, 109	Round, 93	Flatish, 142	Round, 96	Flatish, 127	Round, 93	Flatish, 85	Flat, thick, 115	Flat and very thin, 225	Flat and very thin, 212	Round, 89	133	1,519	126 $\frac{1}{2}$	$\frac{1}{10\frac{1}{2}}$
	22 Havannah	1.45	1.44	Roundish, 100	Flatish, 109	Round, 81	Flat, thick, 147	Round, 89	Round, 88	Flat & thick, 118	Round, 89	Roundish, 119	Round, 62	Roundish, 111	83	1,196	99 $\frac{1}{2}$	$\frac{1}{13\frac{1}{2}}$

II.
Madras.

FORM and CHARACTER of the FIBRE in the several Samples.

Progressive Numbers.	
1	The majority of the fibres flattish, with thickened walls; a few flat and very thin, still fewer round and solid looking.
2	The flat thin fibres, and those with thickened walls, in about equal proportions; a few round and solid looking.
3	Fibres, chiefly flattish, with thickened walls, some round and roundish, solid looking; but very few of the very thin kind.
4	Many flat and very thin fibres; others flattish, with the walls but moderately thickened; a few round solid looking ones.
5	The thin flat fibres present, in considerable number, fibres generally but little thickened, and having a delicate appearance.
6	Much like No. 5. The thickness of the wall of a fibre that measured $\frac{1}{1408}$ " was $\frac{1}{13786}$ of an inch.
7	The flat thin fibres were the predominating character of this sample.
8	Some flat thin fibres, but not in great numbers, the roundish and flattish predominating.
9	The flat thin fibres formed about (?) one-third; the remainder chiefly flattish with thickened walls.
11	Thin flat fibres in considerable number, perhaps one-half.
10	Consists chiefly of flattish and roundish fibres, the very thin flat ones being proportionately few.
12	Fibres roundish and flattish with thick walls; very few of the thin flat kind.
13	A few thin flat fibres; some of the fibres have a ragged or torn appearance.
14	Chiefly round, roundish and flattish fibres, with thick walls; but few of the thin flat kind.
15	Flat fibres present, but not in great number; chiefly flattish hairs with thick walls.
16	Flat fibres in moderate quantity; the remainder roundish and flattish fibres with thickened walls, but somewhat uneven.
17	Like No. 16. This is marked "saw-ginned." I have not seen any indication of the injury said to be done by the saw-gin to Indian cottons; the fibre is as sound as any I have looked at.
18	Consists of roundish, flattish, and round fibres; the broad, thin, and flat kind being very rare. This seems a very even cotton.

J. Mitchell, Captain.

(No. 96.)

ORDER thereon, 5 May 1862, No. 977.

1. *Resolved*, that Captain Mitchell's report of his microscopical examination of various specimens of cotton be printed and circulated. The samples numbered 10 to 18 were received from the Manchester Cotton Association.

2. Captain Mitchell is requested to prepare the drawings and descriptions referred to in paragraph 15.

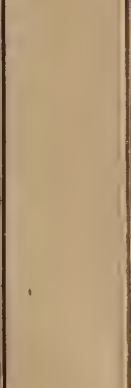
J. D. Sim, Secretary to Government,

(No. 138.)

From Captain J. Mitchell, Officer in charge of the Government Central Museum, to J. W. Brecks, Esq., Private Secretary to His Excellency the Governor; dated Madras, 29 April 1862.

My dear Sir,

WITH reference to the 16th paragraph of my letter of the 21st April 1862 to your address, I have now the honour to forward a table, exhibiting the prices of the various samples of cotton sent out by the Cotton Supply Association, opposite

Length and Price on the 18 th December 1861, of the following Samples of Cotton.				
Number.	Description.	Price per lb.	Length.	Inches.
1	American Medium Cotton.....	* 12 ^d or 8 Annas.....		1.4 to 1.25
10	Sea Island Cotton.....	27 ^d 14.....		1.65
11	Sea Island, stained.....	12 ^d 8.....		1.7 to 1.6
12	Egyptian Cotton.....	12 ^d 8.....		1.6 to 1.55
13	Pernambuco Cotton.....	11 ¹ / ₂ d 7..... 8 Pic.		1.45 to 1.4
14	Fair Orleans Cotton.....	11 ¹ / ₂ d 7..... 8.....		1.35 to 1.25
15	Middling Orleans Cotton.....	10 ³ / ₄ d 7..... 2.....		1.33 to 1.25
16	Broach Surat.....	8 ^d 5..... 4.....		1.25 to 1.15
17	Saw-ginned Surat.....	7 ¹ / ₄ d 4..... 10.....		1.2 to 1.1

* On the 20th November 1861 for this sample only.

opposite to which are black lines to show the average length of staple, which lengths are also given in inches and decimal parts. To this I have added a short memorandum to show why the table has been prepared, and containing a few remarks having reference to some points to which it appears desirable to attract attention.

Will you do me the favour to ascertain whether this paper will meet the wishes of his Excellency the Governor, as conveyed to me in paragraph 7 of your letter of the 3d April 1862?

The white lines on this paper are intended to show, without having recourse to a scale, the average length of fibre in the several samples of cotton sent by the Cotton Supply Association, being those in the greatest demand in the English market.

The plan of measurement adopted was to tease out repeatedly a small quantity of cotton, until a tuft was obtained with both extremities of the fibres as nearly as possible in line. It was then tied round the middle with a thread, and applied to a one-inch diagonal scale.

But as, notwithstanding every care, there will remain a few fibres which project beyond the others, it is proper to note that the lines represent the length of the principal body of the tuft, and not that of these few extreme fibres.

There is a perceptible difference both to sight and touch in different cottons. Some are very soft and silky-looking; others feel somewhat crisp and look less brilliant; but it is probable that considerable experience is requisite before cotton can be judged of in this way: therefore no attempt has been made to lay down rules on that subject here. It must however be observed, that in cottons of Indian growth the microscope shows a greater proportion of thin flat fibres than is found in the American-grown cottons, and it is probable that much of the beautiful glossy appearance of the better class of longcloths and cambrics depends upon the comparative absence of these thin flat fibres from the cotton of which they are made; and it may be a question for scientific agriculturists whether, by alteration of the time of sowing, or by some other means, of which they will be the best judges, more time cannot be obtained for the accumulation of secondary deposits in the hairs of cotton seeds. Its absence, and perhaps the shortness of the fibre also, may be due to the too rapid ripening of the pods, or is it owing to the poverty of the soil?

Some cottons present a considerable number of "specks" or "knots;" these are found to consist of fibres, in which the secondary deposit is absent; that is, of the thin flat fibres, consisting of the cell-wall only.

The points to which the cotton-spinner attaches the greatest importance is "length of fibre," and "absence of foreign matters," or, in plain words, "dirt;" uniformity of length, also, is of course assumed; a reference to the prices will show that they are in proportion to the length of staple. Thus, on the 18th December 1861, Sea Island cotton, which measured about one inch and two-thirds, was worth 21 *d.*, say 14 annas per lb., while saw-ginned Surat, which measured one inch and one-fifth, say half an inch less, brought only 7½ *d.*, or a trifle more than one-third of the price of the former.

The point therefore to which the attention of the grower should be directed is, by improved cultivation, to increase the length of staple; for we see that when the staple was one-half longer, the price was three times greater, or increased from a trifle under 5 annas to 14 annas per lb. It is true the fibre was also better in other ways, but it is likely that more careful cultivation would improve the cotton in every way.

The cotton (No. 1) placed at the head of the list is that in greatest demand, and it will be seen that its length does not much exceed that of the Broach cotton. Knowing what careful agriculture has effected in Europe, Europeans have a right to expect that the same cause should produce the same effect in India; and an addition of one-half, or 50 per cent., to the price should be an inducement sufficient to the cotton-grower to endeavour to effect such an improvement as would give India that command of the cotton market which is now held by America.

II.
Madras.

(No. 139.)

Enclosure in No. 25.

ORDER thereon, 10 June 1862, No. 1276.

1. The Government are much obliged to Captain Mitchell for the table, &c., submitted with this letter.

2. As the table cannot be of much use, the Government direct that copies of it, and of the memorandum annexed, as also of the papers recorded in the order of the 5th May 1862, No. 977, be furnished to the Board of Revenue for distribution to the several collectors of this Presidency, and to such other persons as are interested in cotton cultivation.

J. D. Sim, Secretary to Government.

— No. 26. —

(No. 447.)

From Mr. *G. Williams* to *J. D. Sim*, Esq., Secretary to Government, Revenue Department, Fort Saint George; dated Madras, 9 April 1862.

Sir,

1. I TAKE the liberty to submit for the consideration of Government, extract from a letter that I addressed to the Collector of Madras, offering my services in the cultivation of cotton:—

“A remark of the Governor’s regarding the cultivation of cotton, in his Excellency’s letter to the Horticultural Society, ‘that some of the better description of cotton might be cultivated with advantage in the sandy land bordering the seacoast,’ and that ‘it might be well worth while to make the experiment,’ &c., gives an opportunity, which I would take advantage of, for laying the subject before you in connexion with my knowledge of the isthmus between the Bar at Coromandel and Moonappolliam, where the Armogarn Lighthouse is placed. I am fully persuaded that the soil of the low grounds between the backwater and the scrubby jungle that pervades the country up to the sea-beach at Streeharikota, would be well adapted by a little improvement to the culture of the country staple. Exotics might be introduced after ascertaining the result of the first experiment. The belt of land between Cusbah and the Bar at Dugarápatam is kept moist by a continual exudation, which follows after evaporation of the monsoon waters, producing, as I am inclined to think, a suitable mould mixed with indurated clay, which forms the sub-soil, and which might easily be improved, so as to render it adapted in every way to the growth of cotton. The whole length of this belt is well protected from the drifting of the loose sands nearer the sea, on the east side by the dense scrubby jungle, and on the west by the backwater and extensive inland swamps, &c.”

* Mr. Cunliffe’s letter is herewith appended.

2. In my letter, from which the foregoing passage is quoted, I asked Mr. Cunliffe, as Collector of the district, whether he could find me employment in such an undertaking; to which he replied,* that “as the Government have publicly declared that they will not engage in cotton cultivation, or do more than assist generally the private trader by opening out communications to the seacoast, publishing statistical information regarding the past culture of the plant in India,” &c., he could hold out no hopes to me in the manner suggested. He agrees, however, in my opinion as to the suitability of the locality, and offers to render assistance if I should undertake the experiment in my own behalf.

3. I would very gladly set about it, but I have not the capital required. It was just under such circumstances, when my efforts were crippled in carrying out my railway contract, that Government assisted me with the loan of half a lac of rupees (Messrs. Arbuthnot & Co. being my sureties), seeing how dull the people were in coming forward to throw in supplies of timber for the commencement and progress of the railroad; while (as a rule) no advances of money were ever made to other contractors of the Railway Company. I repaid the loan by entirely fulfilling my contract, although I suffered severe loss

loss by the great rise in freights, on account of the shipment of salt from this Presidency to Bengal, and the breaking out of the Crimean war.

II.
Madras.

4. It is always extremely difficult in this country to stimulate capitalists to embark in enterprises which do not present immediate advantage; if it were otherwise, the Government would not have been so readily persuaded by the railway authorities to assist me; had a more active spirit prevailed, the whole country would present a very different aspect. Hence, if it be not altogether opposed to the designs and objects of Government in relation to the present subject, I would respectfully beg, with the view of reclaiming the waste lands referred to, by embarking in the experiment of growing cotton there, that Government would grant me pecuniary aid for the purpose on the same terms and on similar security; and I promise to attend to the due, faithful and persevering observance of the duties that the work would entail, so as that the trial shall inevitably end in the attainment of some practical result.

5. The lands so reclaimed would, at all events, prove of value to the State; for even should the experiment in cotton fail, the soil will be prepared for the production of timber and other fruit trees, and the supply of fuel to the Madras market would be increased in proportion. The jungle that feeds nearly one-half of the fires in Madras must naturally extend over the waste, which the water overflowed before those improvements took place for securing the canal; but the extension of the jungle would be very gradual indeed, and therefore any outlay for improving the soil can never be spent in vain, so long as the land now unappropriated becomes a useful constituent of revenue to the State, by extending its resources of trade.

6. I would, therefore, with all deference, lay the matter before Government, if I may do so with propriety, for it will be obvious that I am not disinterested in my motives; but hesitation on this ground solely may be equal to inaction where a public good might be accomplished; and if I lay aside that diffidence that should restrain me, I humbly trust that existing precedents may at least excuse my boldness.

7. Should the Government be disposed to assist me with an advance of money as requested, payable after a certain time, hereafter to be arranged, I would propose (after in the first instance securing the land by Cowle from the collector) to proceed to some of the principal cotton districts, and acquaint myself with particulars connected with the soil and method of working in the respective localities; then I would secure the services of some one or two of the more experienced labourers of Tinnevely and Rajahmundry, &c. The attendant expenses will not be much, and, as far as it would go thereafter, will be but gradual throughout; so that as the work progresses, the expenditure will be kept in such check as to give my sureties during its course full command over the outlay. I would bring these men down to superintend the ryots here, and by exercising a supervising co-operation in person, nothing which might be would remain to be tried.

Submitting these views for the consideration of Government.

Enclosure in No. 26.

From *B. Cunliffe*, Esq., Collector of Madras, to Mr. *G. Williams*, Vepery, Madras; dated Sydapet, 25 March 1862, No. 79.

Sir,

1. I AM sorry that I can hold out no hope of employing you in the manner suggested in your letter of yesterday, as the Government have publicly declared that they will not engage in cotton cultivation, or do more than assist generally the private traders, by opening out communications to the sea-coast, publishing statistical information regarding the past culture of the plant in India, &c.

2. You are well qualified to superintend any experiment of the kind, and the locality which you mention appears suited to it; and should private parties wish to engage in cotton cultivation in that or any other portion of this district, they will find me ever ready to assist them.

Note.—I return, after perusal, your interesting report upon the Streecharikota Jungle.

II.
Madras.

(No. 448.)

ORDER thereon, 24 May 1862, No. 1151.

MR. WILLIAMS is requested to state more fully what assistance he desires from Government, and what security he will give for any loan made to him. The Government cannot consent to enter upon such an enterprise as he proposes on their own account. If they ultimately approve of his proposition, the aid they would afford would be restricted to a loan of money on security, the grant of land for a term of years on easy conditions, and the supply of seed when available. Mr. Williams would of course be free to compete for the Government prizes.

J. D. Sim,
Secretary to Government.

— No. 27. —

LETTER from *J. Shortt*, Esq., M.D., Zillah Surgeon, Chingleput, to *B. Cunliffe*, Esq., Collector of Madras; dated Chingleput, 14 May 1862, No. 40.

Sir,

Brazil cotton seeds, 400 lbs.
Bourbon cotton seeds, 35 lbs.
New Orleans cotton seeds, 25 lbs.

1. I HAVE the honour to inform you that I have good, sound cotton seeds of the various kinds, and in the quantities named in the margin, from plants grown here during the season just terminated.

2. The cotton from which obtained for me the first prize at the Agri-Horticultural Society's flower show in February last, and samples of the cotton are now before the Chamber of Commerce at Madras.

3. I beg you will do me the favour to ascertain from Government whether they would wish to purchase the seed for distribution, in which case I should be glad to place the same at their disposal at two annas the pound.

4. I have distributed, during the past season, nearly 100 pounds of cotton seeds, gratis, to various parties who applied to me for the same, but regret that my means at present will not permit of my doing so now.

MEMORANDUM from *B. Cunliffe*, Esq., Collector of Madras, to the Secretary to the Board of Revenue, Madras; dated Sydapet, 15 May 1862, No. 150.

FORWARDED to the Board of Revenue, with a request that the wishes of Government may be obtained on the subject.

Submitted for the orders of Government,
W. Hudleston, Secretary.

Enclosure in No. 27.

(No. 556.)

ORDER thereon, 30 May 1862, No. 1204.

1. THE Board of Revenue are authorized to distribute the cotton seed offered by Dr. Shortt, consulting the Accountant General as to the item in the budget from which the sum should be drawn.

2. The Government take this opportunity of recording their appreciation of Dr. Shortt's exertions to improve the cultivation of cotton.

J. D. Sim,
Secretary to Government.

— No. 28. —

(No. 3747.)

II.
Madras.

LETTER from *A. Wedderburn*, Esq., Collector of Cuddapah, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Madras; dated Muddenpully, 31 May 1862, No. 69.

1. I HAVE the honour to request that the enclosed letter, open for your perusal, may be forwarded to the Secretary of the Cotton Supply Association at Manchester, together with the specimens* as per margin†, as requested by that gentleman.

2. As requested by that gentleman, I have prepared a selection of the common cloths manufactured in this district, and worn by the mass of the people, the total charge of which comes to Rs. 10. 10. 5., which I shall forward if authorized by the Board to defray the said charge.

* Sent by Banghy this day.
† 2 Pods of Egyptian.
2 Parcels of saw-ginned indigenous.
3 Parcels of American.
4 Manufactured Egyptian thread.
5 Coarse spun Egyptian, in the shape of a Doyly.

(Enclosure No. 1.—Specimen of Cotton.)

1. ORDERED that the enclosure in the above letter be transmitted to Government, with a request that it may be despatched to England, and that Mr. Wedderburn be desired to state how he proposes to defray the cost of the cloths he has collected, and the expenses of their carriage to England. He should have requested Mr. Sutton to name an agent in Madras to receive such articles, and to pay their cost, but as he has omitted to do so, the Board will be prepared to submit the matter to Government, on receiving the Collector's estimate of charges, with explanation as to the source whence he proposes to meet the expense.

2. Mr. Wedderburn will please to report in detail on the irrigated lands of his district alluded to in paragraph 21 of his letter to Mr. Sutton, as being kept out of cultivation by over-assessment.

W. Hudleston, Secretary.

To *A. Wedderburn*, Esq., Collector of Cuddapah.

— No. 29. —

(No. 240.)

From *W. Hudleston*, Esq., Secretary to the Board of Revenue, to *J. D. Sim*, Esq., Secretary to Government, Revenue Department, Fort. St. George; dated Madras, 4 June 1862, No. 381.

THE undersigned requests the Secretary to Government, Revenue Department, will be good enough to cause the accompanying letter, replying to queries regarding the cultivation of cotton in Cuddapah, received with a communication* from the Collector, dated 31 May 1862, No. 69, to be forwarded to Mr. S. O. Sutton, Interim Secretary to the Cotton Supply Association at Manchester.

In Cons. 3 June 1862, No. 3392.
* On Board's Proceedings, 11 June 1862, No. 3747.

By order,
W. Hudleston, Secretary.

Enclosure to No. 29.

(No. 241.)

ORDER thereon, 17 June 1862, No. 1327.

THE letter will be sent to the Interim Secretary to the Cotton Supply Association, Manchester, through the India Office, after it has been revised and returned by the Board, whose attention is drawn in particular to the assertion in Answer XXI, that irrigable land is waste from too high assessment.

J. D. Sim, Secretary to Government.

II.
Madras.

— No. 30. —

The Government of Madras to Sir *Charles Wood*.

Public Works Department,
7 June, No. 40 of 1862.

Proceedings of
Government,
12 April 1862,
Nos. 220, 221.
Revenue Proceed-
ings, 19 March
1861, No. 638.

1. WE have the honour to lay before you copy of our proceedings noted in the margin, which will inform you of the orders passed by us in this department on a memorandum of recommendations submitted by the Collector of the Kistna District, in accordance with the views of the Right Honourable the Governor General, as expressed in his resolution in the Home Department, dated 28th February 1861, and having for their object the establishment of good roads, or other communications with the ports on the sea-coast, and the improvement of those ports, in order to facilitate the export of cotton.

2. You will observe that part of the road work suggested by Mr. Thornhill had been already provided for; and that in respect to the remainder, we have called on the deputy chief engineer of the northern circle to take the necessary steps for generally carrying out the views of the Collector, submitting plans and estimates for our approval and sanction. You will also observe that we approved the Collector's proposal to examine and report upon the condition of the port of Nizampatam, and to employ Captain Maiden, the master attendant at Masulipatam, in that preliminary duty, but that we have left this to be arranged in the Marine Department. We have expressed our readiness to consider such reasonable proposals as the result of the examination may suggest for the improvement of the port.

Enclosure 1, in No. 30.

READ the following Proceedings of the Madras Government in the Revenue Department, dated 4 March 1862, No. 478.

Communicating Report from the Collector of Kistna District, on the subject of road and ports in connection with cotton cultivation. (*Vide* Revenue Proceedings, 4 March 1862, Nos. 55-56.)

ORDER thereon, 12 April 1862.

1. THE foregoing proceedings refer for the issue of orders in the Public Works Department, a memorandum submitted by the Collector of the Kistna District on the means of improving the cultivation of cotton in that district, and facilitating its export. These consist in improved arrangements for cleaning, packing, and transporting the cotton, to be undertaken by the merchants themselves without the intervention of Government; and secondly, in the establishment of good road or other communications with the ports on the sea-coast, and the improvement of these ports; which latter calls for direct Government action. Mr. Thornhill's memorandum of recommendation is in accordance with the views of the Governor General in Council, as expressed in his Resolution in the Home Department, dated 28th February 1861, communicated to this Government in Mr. Secretary Grey's letter of the same date, No. 438.

2. The chief cotton growing Tálúqs of the Kistna District are the Palnád and Krosúr Tálúqs, around which the river Kistna flows. The other cotton growing Tálúqs are Junacandah, Rajapet and Guntoor. The existing communications with the coast, whether by canal or land, are not such as they should be. Amravutty is the highest point on the Kistna to which cotton could be carried with any advantage; this is in the Krosúr Tálúq. From Amravutty to Bezwada, the river is said to be navigable for about six months; thence to the port of Masulipatam, the Masulipatam Canal is available; it is also possible for boats to reach the port of Cocanada by canal, *viâ* the Cclair lake, for about six or seven months in the year, while the canal from Bezwada to Ellore is rapidly approaching completion.

3. Thus it appears that the land communications are objects for more immediate concern; inasmuch as there are practically none with the coast.

4. Mr. Thornhill submits a list of roads which he thinks might be advantageously improved, so as to make them fairly passable in the dry season, adding that they lead
either

either to the Kistna, or to some point on the Trunk Roads (Nos. 6 and 7) which traverse the district north and south. They are the six following:—

II.
Madras.

- I. From Peduqural, a town on Trunk Road No. 7 in the Palnád, to Amravutty on the Kistna.
- II. From Peduqural, *viâ* Sattanapalli, to the town of Guntoor.
- III. From Vinakonda, *viâ* Narsarowpet, to Guntoor.
- IV. Part of Trunk Road No. 6 from Guntoor to Bezwada.
- V. From the town of Guntoor to the port of Nizampatam.
- VI. From Turnergode, a town in Palnád, to Dichapalli, *viâ* Goorjal.

5. The first is said to be a mere track, but along which large quantities of cotton pass *en route* to Amravutty. Mr. Thornhill adds that the line has been already examined, and his recommendation is to make such improvements to it as may be readily effected. The second is described as a route considerably frequented in the dry weather; and if improved in its worst parts, it would, it is said, facilitate the traffic to the port of Nizampatam, *viâ* Guntoor, and to Bezwada on the Kistna. The third, which is a part of the high road from Kurnool to the coast, passes, it seems, in its whole length through a cotton producing country; the worst parts of it are recommended to be improved, as, the soil being black, it would take a long time to construct a good road. The fourth is described to be very bad in several parts, and is proposed to be put in good repair, connecting as it does Guntoor with Bezwada, whence access to the ports of Masulipatam and Cocanada is available by water. An estimate of 3,270 rupees for this road, however, *viz.*, from Guntoor to Seetanagram (on the southern bank of the Kistna), has been sanctioned in Proceedings of Government 26th March 1862, No. 580, and permission has even been granted for commencing the work during the current year, in the event of the district engineer being able to provide funds for the purpose from his general allotment. The fifth has been partially made, and some of the worst streams have been bridged. It is said to be an important line, which should be made good throughout, irrespectively even of considerations in connexion with the cotton trade. The last line proposed connects, it is explained, three principal towns in the Palnád with each other, and with Trunk Road No. 7.

6. As to the ports of the Kistna District, of which there are four, Mr. Thornhill apparently recommends the improvement of only one, *viâ* Nizampatam. The two chief ports are Masulipatam and Nizampatam, and the two subordinate ones are Ippurpollem and Motupalli, the latter two being of inferior importance do not call for any notice. The approach to Masulipatam is provided for both by canal and the high road from Hyderabad which runs parallel with it; and although this road is said to be far from good, it is bridged and has a maintenance allowance of 150 rupees a mile per annum. Nizampatam, which will hereafter be connected with Bezwada by a canal, has a bad road to Guntoor partially bridged, the improvement and completion of which is comprised in Item No. V. of the list of roads enumerated above in paragraph 4. The port itself is said to be a favourite port with the native shipping; the backwater is described to be deep and extensive, and the anchorage good, and not too distant from the shore, while the bay is much sheltered on the north and east. But as the water on the bar is said to be shallow, Mr. Thornhill is of opinion that the port should be examined and reported upon by a competent person; and he suggests that Captain Maiden, the Master Attendant at Masulipatam, might be selected to undertake the duty as a preliminary measure.

7. The Government resolve to communicate these Proceedings to the deputy chief engineer, northern circle, in view to the necessary steps being taken to put in order the road communications of the Kistna District, and to carry out generally the views of the collector as embodied in paragraphs 4 and 5 of these Proceedings; for which purpose, he will immediately call upon the district engineer to prepare and submit plans and estimates for approval and sanction. In respect to Trunk Roads Nos. 6 and 7, it is necessary to observe in this place, that in their Proceedings 8th October 1861, No. 1858, Government sanctioned an estimate of 2,720 rupees for repairs to No. 6 for 4½ miles from Bezwada to Ellore, and another of 1,360 rupees for repairs in continuation to Casarapalli; and that in Proceedings 20th February 1862, No. 275, they called for a survey and estimate of a proposed new line for the same road from Inkole to Guntoor, and expressed their readiness to grant 5,000 rupees from the Reserve Fund of 1862-63, for repairs to Trunk Road No. 7, from Nacrikul towards Pondigul, and receiving an application for the same from the deputy chief engineer, after the commencement of that year. And, as already noticed, an estimate of 3,270 rupees has been sanctioned in Proceedings of 26th March for that part of Trunk Road No. 6, which is between Guntoor and the southern bank of the Kistna river.

8. The Government further view with favour the Collector's proposal to examine and report upon the condition of the port of Nizampatam, and they approve his suggestion to employ Captain Maiden, the Master Attendant at Masulipatam, in this preliminary duty. This will be arranged in the Marine Department. Captain Maiden should be instructed to conduct his examination in communication with the district engineer, and the collector; and the Government will be prepared to receive and consider such reasonable proposals, as the result of the examination may suggest for the improvement of the port.

W. H. Horsley, Lieutenant Colonel,
Secretary to Government.

II.
Madras.

Enclosure 2, in No. 30.

REVENUE DEPARTMENT.

PROCEEDINGS of the Madras Government.

READ the following Proceedings of the Board of Revenue:—

Submitting Memorandum from the Collector of the Kistna District on cotton cultivation; and recommending that the subject [of the roads, as well as that relating to the Nizampatam port in that district, be referred for report to the Department Public Works and Superintendent of Marine respectively.

(Here enter 26 February 1862, No. 1333.)

ORDER thereon, 4 March 1862, No. 478.

1. THE Collector's report will be communicated to the Department Public Works for the issue of orders regarding the communications and ports.

2. The Collector ought to have reported the state of the roads at an earlier date, in order that measures might have been adopted for their improvement. The prosperity of a district depends so materially on its communications that their condition should always engage the Collector's prominent attention.

To the Board of Revenue.

J. D. Sim.

„ Department Public Works.

Enclosure 3, in No. 30.

From *G. Thornhill*, Esq., Collector of the Kistna District, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Chepauk, dated Repalli, 17 February 1862, No. 29.

1. I HAVE the honour, with reference to the Board's Proceedings, No. 1635, dated 28th March 1861, to enclose a Memorandum of the state of the cotton-growing taluks of this district.

2. I regret that this report should have been so long delayed, and I am sorry that even now I am not in possession of all the requisite information.

3. I am in expectation of a detailed report on the subject from the sub-collector, which will be submitted to the Board in due course. In the mean time, I beg to lay the accompanying brief memorandum before the Board.

(Enclosure No. 1.)

MEMORANDUM.

Extent of land.

Fasli 1269. Fasli 1270.

TALUKS.		Acres.	Acres.
1. Palnad -	-	57,140	57,166
1. Innakonda -	-	7,996	7,939
1. Rajapett -	-	13,925	13,531
1. Guntoor -	-	9,703	9,369
1. Krosur -	-	35,099	31,390

1. THE principal part of the cotton produced in the Kistna District is grown in the taluks of Palnad, Innakonda, Rajapett, Guntoor, and Krosur. The area of land employed in its culture is given in the margin.

2. The cotton so produced is partly consumed in the district, but by far the greater portion of it is transported by land to the northern districts of Rajahmundry and Vizagapatam, where it is used by the native weavers, but very little of it is exported by sea, and none is shipped direct for Europe.

3. The cotton, which is picked in the dry season, is seldom cleaned, and packed before the setting in of the monsoon in June, and it cannot therefore be moved until the following December or January, as the roads are not passable until that time.

4. A portion of the crop is transported either on bandies or pack bullocks direct from the villages where it is grown, to the northern districts *via* Bezoarah and Ellore, and a portion of it is carried by land to Amaravatee, a town on the bank of the Kistna, 20 miles above Bezoarah, whence it is transported by water to Bezoarah by the Kistna river, and into the Godavery District by the canal and the Collair lake.

5. That the extent of land cultivated would be largely increase to meet a greater demand, or a rise in price cannot be doubted, as the soil suited to its cultivation is very widely spread over the whole of the taluks above named.

6. The greater part of the cotton grown now is of the sort called "red cotton," which I am given to understand, is not in demand for the European market.

7. The

7. The district was visited by an agent from one of the leading mercantile firms in Madras, with a view to ascertaining its capabilities as a field for export, and all the information available in the office was imparted to the gentleman in question; but I have not heard that any subsequent action was taken in the matter.

8. *Increasing the Produce.*—As to increasing the produce, I do not think that any measure of Government will have any effect upon it. There is abundance of room for extension of cultivation, and merchants have only to send their agents into the country, to enter into agreement with the cultivators, and to show them that the cultivation will be profitable, to induce them to bring more land under cotton culture.

9. In the same manner it rests with the merchants to point out the kind of cotton that is required, and it also rests with them to make arrangements for the more speedy and effectual cleaning and packing of the crop.

10. At present the crop is picked in the month of February, but as it is cleaned in the ryots' own houses, it is not ready for packing and transport before the rains set in, and the roads become impassable.

11. The difficulty may be overcome by the merchants setting up cleaning machines of their own, and taking the cotton uncleaned from the ryots; it would be a question whether it would be better for them to clean it on the spot, or to remove the cotton uncleaned to some point whence they could transport it at any season to the port of shipment; such places would be Amaravatee and Bezoarah, at both of which places water carriage would be available to the coast throughout the monsoon, when transport by land is almost impossible.

12. *Improvement of Communications.*—Before considering the means of improving the communications with the ports, it is necessary to show briefly the present state of the country in that respect.

13. From the accompanying rough sketch, it will be seen that the River Kistna flows round two of the chief cotton-growing taluks. This river is navigable with difficulty during the rains as high as Mooktyala. Above that the bed is so rocky that boats are never taken up it, and it is certainly not susceptible of improvement speedily enough to meet the wants of the present time.

14. Amaravatee is the highest point on the bank to which cotton could be brought with any profit; from thence to Bezoarah the river is navigable for about six months in the year.

15. From Bezoarah the canal is open to Akmaru, five miles from Masulipatam, and will, in a month or two, be open to the Fort at Masulipatam. It is also possible for boats to reach Cocanada *via* the Collair lake for six or seven months in the year, and the canal from Bezoarah to Ellore is also rapidly progressing.

16. With regard to the communication by land, the taluks are traversed by the high road from Hyderabad to Madras Trunk Road, No. 7, in a southerly direction, but the road does not lead to any of the ports of the district, and is moreover as bad as it can be.

17. There are no made roads from any part of the taluks in question either to the river bank or to any port. The soil is for the most part black, and consequently the country tracks are impassable during the rains, but very fair during the dry season. Any attempt to make regular roads through the country except at great cost of time and money, would fail, and the only thing to be done is to remove the most serious obstacles in the lines so as to make them fairly passable in the dry season.

18. I subjoin a list of the routes which might, I think, be advantageously so treated. They lead either to the Kistna, or to some point on the trunk roads.

19. The Trunk Road No. 6, high northern road, is in many parts so bad as to be little superior to the country tracks themselves. I would recommend the worst parts to be immediately put in order, especially that part between Guntoor where the branch roads Nos. 2 and 3 join it and Bezoarah.

20. The chief ports in the district are Masulipatam and Nizampatam. Ipurpollem and Motupalli are of inferior importance. I give a list of the different approaches to them from the interior.

21. Masulipatam is approached by the canal from Bezoarah, and by the high road from Hyderabad; the latter passes through black soil, and is unmetalled; it is consequently hardly passable in wet weather, and very bad in dry weather; it is bridged, and as Government have recently sanctioned a maintenance allowance of 150 rupees a mile per annum, I do not think any thing more need be done as it runs parallel to the canal.

22. Nizampatam will hereafter be connected with Bezoarah by a canal; but two locks are still incomplete. There is a bad road to Guntoor partially bridged, on which small sums from local funds are spent: but it requires much to make it even decently good, and I recommend sanction for completing it.

23. Ipurpollem has no approach; a branch from the Guntoor and Nizampatam road at Ponnur to Bapatla is being constructed from local funds, which will be of some assistance to it; it is not a port of so much importance as the other two, and Motupalli is of the same class as the Ipurpollem. A road from Incollu in Trunk Road No. 6 to Chinna Ganjam Salt pans has recently been repaired, and is being bridged, which will aid the approach to Motupalli. The only other point which I think requires attention is the port of Nizampatam.

It is a favourite port with the native shipping; the backwater is deep and extensive, and the anchorage, I believe, good, and not too distant from the shore; and the bay is much sheltered on the north and east. The water in the bar is however shallow, and I am not competent to state if it be capable of improvement.

II.
Madras.

24. The place is so little frequented by European vessels as to be hardly known. It should, however, I think, be examined, and reported on by some person qualified for the task. Captain Maiden, the Master Attendant at Masulipatam, might undertake the duty as a preliminary measure.

Kistnah District,
17 February 1862.

G. Thornhill, Collector.

(Enclosure No. 2.)

ABSTRACT.—List of works recommended to facilitate the export of cotton from the Kistna District.

(Enclosure No. 3.)

ABSTRACT.—Rough sketch map of the cotton producing taluks in the Kistna District.

1. ORDERED to be submitted to Government, with the Board's recommendation that the subject of the roads specified by the collector be referred to the Public Works Department for full consideration, and that the Superintendent of Marine be requested to investigate and report on the state and capabilities of the Nizapatam port, in view to its improvement.

2. It is to be regretted that the collector has so long delayed to bring this state of the roads to the notice of Government.

To J. D. Sim, Esq., Secretary to Government, R.D.
Copy to G. Thornhill, Esq., Collector of the Kistna District.

W. Hudleston,
Secretary.

Enclosure 4, in No. 30.

REVENUE DEPARTMENT.

PROCEEDINGS of the Madras Government.

READ the following Letter from *W. Grey*, Esq., Secretary to the Government of India (Home Department), to *J. D. Bourdillon*, Esq., Secretary to Government, Revenue Department, Fort Saint George (dated Fort William, 28 February 1861, No. 438).

Sir,

I AM directed to forward the accompanying copy of a Resolution this day passed by the Governor General in Council, regarding the supply of Indian cotton to England.

HOME DEPARTMENT.—28 February 1861.

RESOLUTION.

HIS Excellency the Governor General in Council has had under his consideration the possibility of a greatly and suddenly increased demand for Indian cotton in England, and he desires to draw the attention of each local government within the territories of which cotton producing and cotton exporting districts lie, to those measures whereby the power of India to meet such increased demand for cotton may be augmented by help of Government.

It is to be observed:—

First.—That no measure which places Government in the position of the private capitalist, cultivator or speculator, or which in any way interferes with private enterprise, can be otherwise than permanently injurious in itself and detrimental to the object in view.

Therefore all attempts to stimulate cultivation or labour by any exertion of Government authority, directly or indirectly, are out of the question.

The same objection will apply to model farms and experimental cultivation conducted by officers of Government.

Secondly.—No measure will meet the object immediately in view unless it shall tell on the production of cotton during the next season and on our means of getting that season's crop to port. This limitation will exclude from present consideration such projects as railways or canals, which, although the surest permanent means of increasing our power of export, could be made to tell to only a very limited degree on the exports of the next few seasons. Moreover the attention of Government is already directed to promote these works to the utmost extent compatible with its financial means, and even so serious a calamity as

Supply of Indian
cotton to England.

an apprehension of a short supply of cotton in England could hardly add to the desire of the Government of India to advance them as rapidly as possible.

The question for consideration is, what can the Government do towards facilitating an immediate increase of production and towards improving the means of bringing the produce to port.

As to increasing Production.

The solution of questions connected with the tenure of land, and with the law regarding contracts for the delivery of agricultural produce, which are now under the consideration of Government, may ultimately produce a very considerable effect on the investment of European capital in the cotton districts, but the result could not be immediate. More probably an immediate increase of the coming crop of cotton will depend on the rapidity with which information regarding the demand and prices in England can be communicated to the producers in the cotton districts, and, on the removal of all impediments to intimate and rapid communication between those who grow or collect the cotton in the interior and the merchants who export it from the port of shipment. Directly and indirectly, the Government may do something to promote these objects; especially if agents of the mercantile community of our ports will visit the cotton-producing districts, and do all that may be effected by personal intercourse to reduce the number of hands through which the produce must pass between the place of production and the place of shipment. There is also much valuable statistical information regarding the extent of cotton cultivation which it may be in the power of the Government officers to furnish from the public records, or to verify when obtained through other means.

The operations, in the interior, of the capitalists at our seaport towns may be facilitated by affording them the aid of the Government Treasury in their banking arrangements in those parts of the country where as yet no private banks have been established. The agents of respectable firms at the Presidency towns might be permitted, under certain rules, to have their bills on the Presidency cashed at the Government treasuries, paying no more premium than the actual cost of conveying the coin. This, without entailing expense on Government, might often prove a convenience to the merchants.

As to improving the Means of bringing the Produce to Port.

It is by facilitating existing means of communication, even though it be in a rough way, that Government can best aid the merchant promptly without exceeding its legitimate functions.

Projects for bridged and metalled roads are not practicable within the next year or 18 months; but there is a great extent of country capable of producing cotton, which is now not easily accessible to ordinary country carts, even during the fair season; and probably it is by improving the present country cart and pack bullock tracks, and thus extending the mileage over which an ordinary load of cotton may be conveyed at a rate of two and a half or three miles per hour, that the export of the next season's crop may be most effectually aided.

In this view the Governor General in Council requests that each local government will at once take measures to have the lines of traffic between their cotton-producing districts and the port of shipment, whether on sea or river, examined and reported on by a competent officer. This officer should note, in general terms, the extent and probable cost of any improvements required to bring the existing country cart tracks up to the standard just described. For the execution of the improvements the Government should select the nearest executive authority as the one to be charged with the work; and where there is no such authority at hand, a special agency should be employed for the purpose; the only conditions being that the work to be undertaken should be capable of immediate execution.

For such purposes officers of high scientific attainments as engineers are not needed. An officer of judgment and energy, with a capacity for rapidly estimating the probable cost of the very simple works required, will be almost as useful as an accomplished engineer. In the event of any expenditure being required, which it is beyond the power of the local government to sanction, application should be made to the Government of India for a special grant.

It would be very desirable that the officers employed to examine and report should be accompanied each by a member of whatever commercial community may be most interested in the produce of the district, who might observe and report on any obstacles other than physical which may appear to impede the cotton trade. The combined report of two such gentlemen, if well selected, would furnish information of considerable practical value regarding any province in which they might be employed.

The Government of India will be prepared to bear the charge of the travelling expenses of any gentlemen who might be deputed by commercial communities to accompany its officers.

It is not intended to discourage, on the part of those who may be engaged as above described, suggestions of any extensive or costly work which may promise to subserve, in a large or more permanent manner, the great object in view, even though it may not admit of speedy execution, or be within the means of Government to sanction immediately.

II.
Madras.

II.
Madras.

ORDERED, that a copy of this resolution be communicated to the Governments of Madras and Bombay; to the Lieutenant Governors of Bengal, the North Western Provinces, and the Punjab; to the Commissioners of Pegu, Nagpore and Mysore; and to the Resident at Hyderabad.

Ordered further, that the local governments and administrations be requested to communicate a copy of the resolution to the commercial communities at their chief towns, through the Chambers of Commerce, or otherwise; with an invitation of any suggestions which may occur to those practically interested, and which may aid more effectually to attain the great national object in view.

W. Grey,
Secretary to the Government of India.

ORDER thereon, 19 March 1861, No. 638.

ORDERED to be communicated to the Chamber of Commerce and the Trade Association.

C. G. Master,
Deputy Secretary to Government.

To the Chamber of Commerce,
" Trade Association.
" Board of Revenue.

— No. 31. —

From A. Wedderburn, Esq., Collector of Cuddapah, to W. Hudleston, Esq., Secretary to the Board of Revenue, Madras; dated Muddenapalli, 24 June 1862 (No. 91).

Sir,

1. WITH reference to the Order of the Board, dated 11 June 1862 (No. 3747), I have the honour to state that being under the impression that the communication of Mr. Sutton's circular of questions regarding cotton was authorised by Government, and as a specimen of the cloths in ordinary wear was requested by Mr. Sutton, I presume, in order to see whether Manchester could compete in coarse as well as in long cloths with the country productions, I made a selection as marginally noted.

					<i>Rs. a. p.</i>
1	Pair of dovati cloths	-	-	-	3 4 6
1	Head cloth, 1st sort	-	-	-	1 5 6
1	Ditto - - 2d ditto	-	-	-	14 -
1	Piece of cloth for a sheet, 1st sort	-	-	-	1 9 6
1	Ditto - - ditto - 2d ditto	-	-	-	1 3 -
1	Woman's cloth	-	-	-	1 2 6
1	Pair of Upper cloths	-	-	-	1 3 5
Total					<i>Rs.</i> 10 10 5
Banghy to Madras, if not on service					6 - -
Total					<i>Rs.</i> 16 10 5

It is a matter for Government to decide whether the specimens should be sent, and if it were considered of sufficient importance, the cost of carriage might be requested to be paid in London, or by bill on Madras. I have no doubt that Mr. Haywood, if communicated with, would at once send a cheque for the trifling amount of the specimens requested by Manchester. Of course, an item like the above is an unforeseen charge, and can be paid out of the Budget Estimate of 4,000 rupees: "Unforeseen charges, revenue," for 1862-63, with the sanction of Government.

2. As the Board request a detailed account of land out of cultivation by over-assessment, I shall reply to the reference on a future date, as the preparation of a detail of acres in every taluq is a matter of time. I shall only briefly notice that my predecessor found it necessary to reduce assessment on waste land* to the value of 37,373 rupees; and that out of these lands, which were all applied for, 33,675 rupees† was taken into cultivation, which showed the net result of increase of revenue.

	Assessment.	
	<i>Acres.</i>	<i>Rs.</i>
Dry - - -	4,970	10,021
Garden - - -	801	6,515
Wet - - -	2,403	20,837
	* 8,174	37,373

† Acres, 7,172.

3. The Board are aware that, some 30 years ago, the Collector of Cuddapah allowed wells to be dug in dry lands, without teervajasty. This boon caused a great transfer of capital and labour from the old high assessed garden lands to the new well lands. Since then a reaction, or rather an extension of cultivation has taken place, and old waste garden lands are inquired for

for at the reduced assessment of half the tarwary rate, minus the remission; for example:

Reduced Rate.

The original tarwary rate being - - - Rs. 10 $\frac{10}{2}$ = Rs. 5

Remission.

The current rate being, tarwary - - - Rs. 10 $\frac{10}{3}$ = Rs. 6 $\frac{2}{3}$

The actual reduction being - - - - - 1 $\frac{2}{3}$ or about 16 per cent.

On tank and channel and dry lands, the remission would be, say—

Reduced Rate.

Rs. 10, being the tarwary rate - - - - - $\frac{10}{2}$ = Rs. 5

The current rate - - - - - Rs. 10 $\frac{10}{4}$ = Rs. 7 $\frac{1}{2}$

Net reduction - - - - - 2 $\frac{1}{2}$ or 25 per cent.

4. Whether the reduction of assessment should be gradual, moving with the increase of cultivation and demand for waste land, or whether all lands thrown up should be at once reduced, which would involve rather a transfer of capital and labour than a direct increase of cultivation, is a matter for the Board to decide. The waste lands cannot be all taken up at once. This is shown by the amount still uncultivated, although reduced after application for remission. The first course has the advantage of insuring a steady increase of cultivation, the last course gives the ryots a large choice of land. Over-assessment is a relative term, for low-rated lands may be as over-assessed as high-rated land, the point being determined by the profit realized. Mr. Murray's reduction of 37,373 rupees of assessment on waste has resulted in a net increase of one-third of a lac of revenue from increased cultivation; so that his plan of gradual reduction, on applications, has suited the increasing powers of the ryots for cultivation, and has borne good fruit.

Enclosure 1, in No. 31.

1. THE above order of Government will be communicated to the Collector, with instructions to forward a copy of Mr. Sutton's queries, to enable the Board to revise Mr. Wedderburn's answers, as desired by Government, and copy of the letter as revised will be eventually communicated to Mr. Wedderburn.

2. The Board had already called on him for explanation of the statement in his answer, No. 21, that irrigable land in his district is kept out of cultivation by over-assessment; and his reply above recorded will be now submitted to Government.

3. The Board proceed to pass the following remarks upon it.

4. Mr. Wedderburn in his reply to the Board's question as to how he proposes to defray the cost of the articles that he has collected on his own responsibility, fails to perceive that it is not the amount of the sum which was objected to by the Board, but the disregard of all rule apparent in his proceedings, he having, on the application of a private individual, and without any authority, or even the cognizance of Government, proceeded to collect specimens for transmission (at Government cost) to England, and remarked upon the fact in his letter to Mr. Sutton, so as to throw on the Board or Government the "onus" of repudiating his unauthorised act, and of thus apparently throwing obstacles in the way of obtaining information on this important branch of trade in the present crisis.

5. The Board consider Mr. Wedderburn's act to be unjustifiable, but under the peculiar circumstances of the case, they will request the permission of Government to charge the cost of the articles and of their carriage to Madras, and transmission to England, to the Collector's contingent bill. The charge can be met from the provision for these expenses in the District Budget Estimate.

6. As to the statement in his letter, that irrigable land is kept out of cultivation by over-assessment, Mr. Wedderburn's present letter affords little explanation, and the Board will await the promised detailed report.

7. Meanwhile, they will only remark, that his present letter is not consistent with his

II.
Madras.

former statement, inasmuch as he now appears to state, that although there may be over-assessed land in the district, still no land that would otherwise be in demand, is by this reason kept out of cultivation.

8. The collector ought to be aware, that if land is kept out of cultivation by over-assessment, the fault and the remedy rests with himself, inasmuch as the circular order, dated 31st August, 1854, *et seq.*, called on all Collectors to submit proposals for revising the assessment in all such cases, and if revision was not made when necessary, the local officers are alone responsible for the existing objectionable state of things.

W. Hudleston, Secretary.

ORDER thereon 1 August 1862, No. 1641.

(No. 12.)

THE Governor in Council sanctions Rs. 16. 10. 5. being the amount of charges incurred by the Collector of Cuddapah, for the collection of certain specimens of cloth to be forwarded to the Cotton Supply Association at Manchester. He concurs with the Board of Revenue as to the irregularity of the purchase.

A. J. Arbuthnot, Acting Chief Secretary.

Enclosure 2, in No. 31.

(No. 153.)

READ proceedings of the Madras Government, Revenue Department, dated 17 June 1862, No. 1327, stating that the letter from the collector of Cuddapah will be sent to the Interim Secretary, Cotton Supply Association, Manchester, after it has been revised and returned by

(In cons. 18 June 1862, No. 3757.)

ORDERED, that the letter as revised, be returned to Government, for the purpose of being forwarded to the Cotton Supply Association, with the samples of cotton and cloth, received from the Collector.

Enclosure 3, in No. 31.

From A. Wedderburn, Esq., Collector of Cuddapah, to S. O. Sutton, Esq., Interim Secretary, Cotton Supply Association, 1, Newall's Buildings, Manchester; dated, on Circuit at Muddenpully, 31 May 1862 (No. 286).

Sir,

* No date entered.

I HAVE the honour to append replies to the queries proposed in your printed circular of December* 1861, forwarded with your letter dated 20th November 1861.

1. Indigenous cotton is cultivated in Cuddapah district. It goes by the name of "Madras Western."

2. There is but one kind, the indigenous, at present cultivated for sale.

3. American cotton has not been cultivated to any extent. It has been only tried as an experiment in this district.

† *Vide* Statement of cotton and indigo cultivation for February 1862, published by the Board of Revenue.

4. There are 26,353† acres in cultivation at the time of writing. The yield per acre is estimated on an average at 200 lbs. of seed cotton, so the total would be about 5,270,600 lbs.

5. Cannot be answered from want of data.

6. Soil various. In the western division 500, and 700 feet above sea-level; it is an alluvial deposit of various depth, above limestone. Nodular limestone near surface. Further east, ditto, and iron-stone. In the centre, near the Pennar river, it is a sandy loam; further from it, clay over nodular limestone. The southern division, table-land; elevation from 1,000 to 2,000 feet above the sea, is gravelly light soil and débris of granite and igneous rock; the eastern vallies containing divers soils of various richness. All the best land is under cultivation. There is much waste, salt and barren, unfit for cultivation. The district

district is traversed by hills, and shut off from sea-breeze. The climate is very hot and dry; the rain-fall, except in exceptional seasons, being under 30 inches per annum.

7. Irrigation is employed for grain crops and sugar cane; it is not employed for the indigenous cotton; if employed sparingly for indigenous on the usual alluvium on which it is grown, it might be advantageous. The experiment has not been tried; it is expensive, and the water is required for food-yielding crops. When the Madras Irrigation Company's canal reaches the cotton grounds of Cuddapah, if the charge for water be moderate, it is likely that the production of cotton would be improved; that is, if the water were sold by quantity, and not charged on acreage, for cotton would not require full irrigation. Irrigation by wells; that is, water raised from depths by the labour of bullocks, is too expensive to be used for cotton.

8. It is estimated that 50 lbs. of clean indigenous cotton are the average produce per acre. The extension of its cultivation would depend on the price of the article.

9. Judging by the extension of indigo cultivation, I would expect a similar rise in prices to be attended with a similar extension of cotton cultivation.

10. I know of no obstacles to the cultivation of indigenous cotton; but for American and Egyptian, the climate is unfavourable, unless mitigated by irrigation.

11. There is a large consumption of cotton for native coarse cloths. Taking the population at 1,059,102, and allowing on an average eight cloths per annum to 794,326 individuals, excluding children, and one lb. for each cloth, the local consumption would amount to about 6,300,000 lbs. The quantity available for export depends a good deal on the prices offered. If cotton is dull, less will be exported, and the poorer natives will get their cloths cheaper. The higher classes wear English long cloth, and cloth woven from English yarn is also used to a considerable extent.

12. Native merchants only at present buy cotton for sale at Madras. Their agency is not recommended, as they do not discriminate between the qualities or cleanliness of cotton; and it is very difficult to impress the necessity or expediency of any improvements on them. The chief sellers of cotton are the growers themselves, who, at the slack time of cultivation, cart the cotton to Madras and sell it there. I think the Madras mercantile houses would be the best agency for the purchase of cotton, as they could depute persons at the sowing and packing seasons to give directions, and buy it on the spot. They would not be able to cart it as cheaply as the cultivators themselves, who drive their own carts and cattle; but when the railway is extended to Cuddapah, this objection will be removed.

13. The average price of indigenous cotton at the place of growth, was 3½d. per lb. in February last; it is now probably a little higher.

14. Carts conveying three loosely-packed bales, weighing together about 1,500 lbs. are the means of conveyance. The average hire of a cart is 2l. The distance to be traversed, 200 miles, more or less. The main road is in fair order, and is being bridged for the cotton traffic.

15. If the natives are convinced that a better seed produced a better crop, they would avail themselves of it. They do attend in some measure to the selection of good seed for sowing; the inferior being given to their cattle.

16. The churka is the usual mode of cleaning; the natives have no cotton presses. Few cultivators could afford to buy a press. An objection is raised to carry a greater weight, the more closely packed, by the native carters. This objection would be overcome. I have advocated pressing on the spot in this dry climate, instead of at Madras, which is damp by the sea air. There is not sufficient attention paid to picking cotton free of leaf. Loose packing is favourable to dust mixing with it. I do not look for improvement without the assistance of European agency, buying on the spot, screwing and packing under supervision. I distributed four* cotton gins, which seemed to me to clean the cotton well and expeditiously, but I await a report from Mr. Haywood and the Madras Chamber of Commerce, to ascertain if the fibre has been injured or not. I found the larger gin useless, unwieldy, and destructive.

* See plan, Dr. Forbes Royle's Book, p. 640, 4 saws and brush, v. 12.

17. Cotton cleaning by the churka costs about 1½d. per 3 lbs.; by the cotton saw-gin, one farthing per ditto.

18. I forward one specimen of New Orleans saw-ginned; two pods of Egyptian, one specimen of indigenous saw-ginned, and one specimen of manufactured Egyptian thread.

19. I shall do my best to extend the cultivation of American cotton if the cultivators agree to accept seed.

20. I forward a specimen of coarse-spun Egyptian, in the shape of a doily, sent as a curiosity by my native deputy Collector, and some† samples of native cloths, the produce of the district. I could send specimens woven of English yarn, but I suppose that they are not required; nor fancy muslins, made only to order, and at great cost, and not an article of general consumption.

† Will be sent hereafter, if authorised by the Board to defray the value thereof, Rs. 10. 10. 5.

21. The waste lands of Cuddapah are estimated at 2,536,747 acres, but I doubt if much

II. Madras.

Irrigated, i.e. supposed to have, or have had the means of irrigation: Acres, 45,726; Assessment, 32,318 l.

Unirrigated: Acres, 2,491,021; Assessment, 139,502 l., or 1 s. 1½ d. per acre.

of such land is suited for cotton. The quantity of waste land being more guessed at than correctly measured, cannot be taken as a correct statement. My opinion is, that a steadier market, higher prices, and intelligent supervision of the growth and preparation of cotton, would lead to a considerable extension of cultivation on suitable land. If waste lands are to be reclaimed, the natives will reclaim them at a cheaper rate than Europeans. A steady and profitable market will ensure cultivation, and European assistance will improve the product. The manner in which indigo cultivation and manufacture by natives has spread over the district, and the stimulus lately given by increased prices, consequent on the disasters in the indigo districts of Bengal, show that the supply will follow the demand. I have distributed the eight specimens of cotton, received with your circular, to all my native tahsildars or subordinate collectors, with directions to exhibit the same with the prices, calculated in native money, to the cotton growers and native dealers, and have circulated the middling New Orleans specimen at 12 d., with the photographed staples. My idea is, that middling New Orleans might be grown on light limestone soil, with occasional irrigation, but until further experiment, I cannot say whether the article will, commercially, pay the cultivator. I found that Egyptian would not grow without water, but that if watered in a rich soil, it went to wood and leaf. The cultivation of foreign cotton in this district is a matter of delicacy. I believe it will not grow even on a rich soil without some water, owing to the aridity of the climate, but an excess of water gives a great branching tree. On a light limestone soil, with occasional water, I believe the plant may thrive; the effect of irrigation modifying the effect of the climate. American culture is suited to that climate, but not to this. The humidity or aridity of a climate is all-important, and each district has a climate varying more or less. Thus, the Areca palm does not grow here, but its produce (what are called betel nuts) are imported from the western coast, i.e., Malabar, a damp and rainy locality. The cocoa nut never flourishes far from the sea air, though it is forced in this district by irrigation to the roots, which it does not require on the coast. Indigo has got a start in Cuddapah, probably from the quality of the soil. It was usually grown on partially irrigated land, but now it is extending to the alluviums of the unirrigated parts of the district, where it pays on light assessed land; its produce not being equal to semi-irrigated indigo grown on a heavier assessed land, as a rotation crop after rice. I think if the Madras mercantile houses were to depute an agent to the cotton districts, improvement would ensue. Little can be expected from the rude uneducated grower, or native merchant; but before Madras houses can be expected to embark their capital in this trade, the market must be steadier, as the long sea voyage places them at a disadvantage with the producers of better climates, with shorter transit.

Cotton Gins. Since my exhibition of the cotton-gins in the commencement of this year, I hear that such gins are beginning to be appreciated, and am given to understand that 50 would be bought. I sold four at 2½ 10 s. each, but I dare say 3 l. would be given if delivered free of other charges at Cuddapah. I must decline to be responsible for the sale, but have reason to suppose that they would be purchased.

I append copies of some of my revenue circulars to the people, regarding cotton cultivation.

Notice to Cotton Cultivators.

District Gazette	-	-	-	-	-	-	7th December 1861.
Cotton saw-gins	-	-	-	-	-	-	15th February 1862.
Cotton cultivation	-	-	-	-	-	-	5th April 1862.

A. Wedderburn, Collector.

Enclosure 4, in No. 31.

(No. 154.)

ORDER thereon, 10 September 1862 (No. 1928).

1. ORDERED, that the letter, as now revised by the Board, be forwarded to the Interim Secretary of the Cotton Supply Association, Manchester.

2. Ordered, also, that 70 copies be printed for distribution.

T. Pycroft,
Chief Secretary.

— No. 32. —

EXTRACT PUBLIC WORKS DESPATCH to Madras, dated 16 September (No. 23), 1862.

4. THE report by Mr. Thornhill, the Collector, shows that a great deal of cotton may be procured from the Kistnah district, and it is most desirable that facilities for its conveyance to the coast should be provided, by the construction of the roads, for which the district engineer has been desired to furnish plans and estimates.

No. 40. Improvement of roads and ports in connexion with cotton cultivation. Memorandum by the Collector of the Kistna district.

— No. 33. —

II.
Madras.

REVENUE DEPARTMENT.—No. 67 of 1862.

To the Right Honourable the Secretary of State for India.

Right Honourable Sir,

Fort St. George, 25 Sept. 1862.

1. REFERRING to your Despatch of 9th July 1862, No. 18, we have the honour to state that, in pursuance of your instructions in paragraph 4 thereof, we have desired the Board of Revenue* to inform all Collectors that they are not at liberty to grant any more land rent free for cotton experiments without our previous sanction; but that such land as may have been already assigned for that purpose, free of tax, must be so continued, according to the terms on which it was given.

* Order of Government, 13 Sept. 1862.
No. 1971.

2. We further beg to explain that our object in the measures adopted by us was not to increase the production, but to improve the character of the staple and the quality of the produce.

We have, &c.

W. A. Morehead.

E. Matby.

— No. 34. —

(No. 5491.)

READ the following Letter from *P. Grant*, Esq., Collector of Coimbatore, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Madras; dated Ootacamund, 8 August 1862, No. 161.

1. WITH reference to the proceedings of the Board of Revenue, dated 1st November last, No. 5995, I beg to report that immediately on the receipt of the above order, my predecessor, Mr. Thomas, instituted the inquiries necessary to allow of the experiment of cotton cultivation being carefully carried out under the conditions prescribed in his Excellency the Governor's minute.

2. Mr. Thomas had also a careful abstract of the requisite parts of the minute prepared and translated into the vernacular, and published the same in the district Gazette; copies of which were also furnished to the tahsildars.

3. Nine ryots, as shown in the accompanying statement, were selected to carry on the experiment: of these, eight have agreed to appropriate 15 acres each of their holdings for the cultivation of indigenous cotton on the improved process, while in one individual case the extent of land to be so used is 30 acres, making in all 150 acres, assessed at Rs. 177. 7. 4. The Board will perceive that the limit fixed in his Excellency the Governor's minute, para. 9, viz., 30 acres in each instance, has not been exceeded. The total extent of each ryot's holding, and the assessment thereon, are also shown in the statement.

4. The individuals selected were furnished with copies of the abstract of the necessary parts of the minute, and it was fully explained to them that the crops will be at their disposal in each year, and that all that is required of them is to select the seed, to make the returns, and to furnish the sample of produce in the manner required by the terms of the minute.

5. The season of Fasli 1271 was extremely bad, as reported by my predecessor, in several of his letters, and more especially in that dated 4th March 1862, No. 50. Consequently the experiment was not undertaken by any of the ryots selected; nor was any remission of assessment granted on this account for the above Fasli year. The present season is still worse than the past one. There has been no rain to speak of since May last, and the south-west monsoon has also failed; we have yet to see what the state of the north-east monsoon will be; if it proves favourable, the experiment will be undertaken in such places as it is likely to succeed, and then the results shall be duly reported.

6. I am not now in a position to make any suggestions in connexion with paragraph 10 of the minute, regarding the prizes to be awarded; but I hope to be

II.
Madras.

able to submit my views when reporting on the result of the present year's experiment.

7. My acting head assistant, Mr. Irvine, previous to his departure for England, selected a person in Sattimungalum Taluk, in his division, and orders have been issued to the tahsildar, calling for information regarding the total extent of his holding, and the area on which he wishes to try the experiment. On receipt of the tahsildar's reply, I shall again address the Board on the subject.

Enclosure 1, in No. 34.

ABSTRACT.—Statement showing the names of the ryots selected for the experimental cotton cultivation on the terms sanctioned in his Excellency the Governor's Minute, communicated in the Government Proceedings of 29 October 1861, No. 2069, the total extent of their holding, and the area on which it is proposed to remit the assessment.

Enclosure 2, in No. 34.

1. THE Board are glad to learn that the experiment has been so carefully introduced, and approve the Collector's arrangements.

2. They trust, that he is not dictating to the ryots the use of a seed which they consider inferior to Bourbon, and that when stating that the land is to be appropriated to the cultivation of indigenous cotton, he does not mean that he has interdicted the Bourbon species, if the ryots themselves prefer it. The Board are under the impression that Bourbon cotton has been for some years past extensively cultivated in Coimbatore, and has become naturalised there; and if so, and the ryots prefer it to the indigenous species, there is no reason for limiting the experiment to the latter.

To P. Grant, Esq.,
Collector of Coimbatore.

W. Hudleston, Secretary.

— No. 35. —

(No. 334.)

READ the following Proceedings of the Board of Revenue, dated 7 October 1862 (No. 6725).

READ the following Letter from P. Grant, Esq., Collector of Coimbatore, to W. Hudleston, Esq., Secretary to the Board of Revenue, Madras; dated Ootacamund, 26 September (No. 199) 1862.

Sir,

1. IN continuation of my letter of the 8th ultimo, No. 161, I beg to report that the name of the ryot selected in the Suttimungalum Taluk for the cultivation of cotton, on the terms and conditions offered, in his Excellency's minute, is Chinna-timbi Gounden, of Vannipoottour. He is a substantial ryot, possessing 350 acres of both dry and wet lands, assessed at Rs. 1,739. 6. 7, and agrees to bring 30 acres, bearing an assessment of Rs. 32. 3. 8., under cotton cultivation on the improved process. The experiment will be undertaken by him in the next Falsi 1273, the seed being selected from the produce of the current year.

2. I have communicated to all the ryots engaged in the experiment that the cultivation need not be restricted to the indigenous cotton, but that they are at liberty to grow the Bourbon species, which is a superior kind, and which had already been introduced into this district to a considerable extent.

Enclosure in No. 33.

THE arrangement made in this case is approved, and will stand, but the Collector will learn from the Board's Circular Order, dated 22d September 1862, No. 6358, that no further assignments of this kind are to be made.

W. Hudleston, Secretary.

— No. 36. —

(No. 5077.)

READ the following Letter from *V. H. Levinge*, Esq., Collector of Madura, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Madras; dated Kodaikanell, 28 July (No. 150) 1862.

1. WITH reference to the Board's proceedings of the 1st November last (No. 5995), relating to the improvement and extension of the growth of cotton, I have the honour to inform them, that a careful abstract of the necessary parts of his Excellency the Governor's minute on the subject was prepared and translated into the vernacular, copies of which were furnished to the tahsildars, with instruction to give them every publicity, and the views of the Government were fully explained to the ryots.

2. But I am sorry that the ryots of this district have not responded to the call in any numbers.

3. I have, however, received an application from a substantial ryot of the Dindigul Taluk, and beg to submit, as directed in paragraph 4 of the Board's proceedings under reference, a statement showing the extent proposed to be devoted for cotton cultivation, with particulars as to his holdings, &c.

4. As the applicant is engaged to abide by all the conditions specified in the above minute, I request the Board's sanction to remit the assessment on the land proposed to be cultivated with cotton for five years from the current Fasli 1272.

5. I am also sorry that I am not now prepared to submit any proposal in connection with paragraph 10 of the minute relative to the prizes to be granted.

Enclosure in No. 36.

ABSTRACT.—Statement showing the applications for cotton cultivation.

1. THE remission requested is in accordance with the orders of Government, and does not require further sanction. The Collector will bear in mind that if rotation of crops be deemed necessary, it is not desired to limit the cultivation of cotton under remission to the same identical spot throughout the five years.

2. It is only necessary that the prescribed extent of land be thus cultivated in each year, and the other conditions of the remission fulfilled.

To *V. H. Levinge*, Esq.,
Collector of Madura.

W. Hudleston, Secretary.

— No. 37. —

(No. 5917.)

LETTER from *J. Silver*, Esq., Collector of Tinnevely, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Madras; dated Tenkasy, 18 August 1862, No. 357.

1. WITH reference to the Board's official memorandum of the 9th ultimo, No. 482, requesting that a reply may be forwarded to the Board's proceedings of the 1st November 1861, No. 5995, on the subject of the cultivation of native cotton in this district, and the prizes to be granted, I have the honour to state, that immediately on the receipt of the above proceedings, the necessary orders were sent to all the tahsildars on the subject, and some of the ryots have signified their intention to try the experiment in accordance with the instructions of Government during the coming cultivating season, in the current Fasli 1272, and the result will be duly reported.

2. The accompanying statement shows the number of ryots selected for the experiment, the total extent of each man's holding, and the area on which it is proposed in each case to remit the assessment for five years.

II.
Madras.

Enclosure in No. 37.

ABSTRACT.—Statement showing the number of ryots selected for trying cotton cultivation according to the instructions conveyed in the Board's proceedings of the 11th November, 1861, the total extent of each man's holding, and the area on which it is proposed in each case to remit the assessment for five years.

The Board approve the Collector's proceedings.

W. Hudleston, Secretary.

To J. Silver, Esq., Collector of Tinnevely.

— No. 38. —

REVENUE DESPATCH to Madras, No. 32, dated 14 August 1862.

Para. 1. WITH reference to my Despatch, dated 2d May (No. 7) of 1862, the first instalment of cotton seeds which has been received by Mr. Markham from the Peruvian valley of Piura will be transmitted to the Chief Secretary of your Government by the mail which leaves Southampton on the 20th instant.

2. Some delay in forwarding these seeds has been occasioned by the absence from Piura of the person who had undertaken to transmit them. The parcel now forwarded to Madras contains 25 lbs. of cotton seeds of the best quality grown in the Piura valley.

3. The months of September or October will probably be found to be the best season for sowing these seeds, if irrigation is resorted to, as it should be in the cultivation of the Peruvian species in sandy or red soils. It is, therefore, very desirable that there should be as little delay as possible in distributing the seeds, in order that the experiment may have a fair trial, the results of which you will report to me.

4. I also forward copies of some remarks on this subject by Dr. Wight, who was formerly in charge of the experimental cotton farms in Coimbatore.

Enclosure in No. 38.

MEMORANDUM by Dr. *Wight*, on the Introduction of the Cotton Plants of the Peruvian Coast Valleys into the Madras Presidency.

July 1862.

I THINK that it is in every way desirable that the Peruvian cotton plant should be extensively and perseveringly tried in the Carnatic, especially along the wide sandy flats bounding nearly all the larger rivers and streams which intersect the country between the central ranges of hills and the coast. Most of these flats are more or less flooded for a few days once or twice a year, and apparently dry during the rest of it, but still full of water within a foot or two of the surface; also along the sandy flats near the coast, which, in like manner, contain much moisture while apparently perfectly dry, agreeing in these respects with the best cotton-producing provinces of Peru. But there is this essential difference, that, though a dry climate, the Carnatic is certainly not rainless, demanding due consideration in the choice of the sowing season, so as to ensure the harvest commencing with the hottest and driest season of the year. Heavy rain, when the plant is in full bearing, is sure to injure much of the cotton near maturity.

In the Carnatic the dry season extends, almost without a shower, from about the middle of December until July, when what is called the little monsoon occurs, the rains of which are often very heavy, and would, if the fields were in full bearing, cause much mischief. On that principle I ground my suggestion that, in the event of irrigation being had recourse to in cotton cultivation in India, the sowing should be done in September, in which case the plant would be in full bearing, quite independent of rain, in February, and might, by an occasional watering, be kept in a healthy bearing state till May or June, or, perhaps, even till July, by which time the plant, if an annual, would be exhausted. If a perennial, it then might be allowed to rest for a couple of months, preparatory to yielding a second smaller crop during August and September.

In a rainless country, but with opportunities of storing water for future use, nothing is easier than to cultivate cotton by irrigation. The difficulty lies in having to deal with a climate pretty regularly visited twice a year with periodical rains, but these so uncertain, both as to time and quantity, that one is at a loss how to regulate the crop season. Such is

the case along the whole Coromandel coast, from Cuttack to Cape Comorin. But, notwithstanding these irregularities, it is my belief that the American kinds of cotton might all be profitably cultivated by means of irrigation throughout the whole of the Carnatic.

In cultivating perennial cotton plants, a season of rest should be allowed them during several months each year, a point to which attention should be directed, when the Peruvian seeds are forwarded to India. I hope that these suggestions may prove useful in securing success to this very promising plan for adding another and superior variety of cotton to those already in cultivation in India.

II.
Madras.

— No. 39. —

(No. 32.)

PROCEEDINGS of the Madras Government, dated 4 October 1862, No. 2136.

RESOLVED that the Collectors of the districts noted in the margin,* be requested to report direct to Government upon the state and prospects of cotton cultivation in their districts for the current season, stating whether the cultivation of cotton for the present year is greater than that of the preceding year, and, if so, to what extent.

T. Pycroft,
Chief Secretary.

— No. 40. —

(No. 78.)

From *E. B. Foord*, Esq., Acting Collector of Kistna District, to the Honourable *T. Pycroft*, Chief Secretary to Government, Fort Saint George, dated Masulipatam, 13 October 1862, No. 18.

Sir,

1. I HAVE the honour to acknowledge the receipt of the proceedings of Government, dated 4th instant, No. 2136, and to note in the margin the extent of cotton cultivation up to the end of September compared with the cultivation up to the same period in last year.

Fasli.	Land.	Assessment.
	<i>Acres.</i>	<i>Rs.</i>
1271 - -	47,733	68,779
1272 - -	74,229	1,11,062
Increase - -	26,496	42,283

2. The cotton cultivation is generally commenced in the month of September, and will be almost completed by the end of November. The crops already grown are in a promising state, but as heavy rains are prejudicial to this crop, the true results and the total area cultivated can only be precisely stated in December.

— No. 41. —

(No. 79.)

From *G. Banbury*, Esq., Acting Collector of Kurnool, to *T. Pycroft*, Esq., Chief Secretary to Government, Fort Saint George, dated Kurnool, 14 October 1862, No. 46.

Sir,

1. IN reply to the proceedings of Government, dated 4th instant, No. 2136, I have the honour to transmit a comparative statement of the cotton cultivation in each taluq of this district for the previous and present years. The account shows that up to the end of last month, there is a net increase in favour of the present year of acres 40,247 thus sown.

2. Had the season been more favourable at the commencement, the expectancy of realising such remunerative returns would doubtless have caused a much larger breadth to be sown with this crop. Cotton sowing begins about the middle of August. This year the rains which usually fall in July and August were sadly deficient; and apprehensions of scarcity became rife. In the beginning of September, however, the rains commenced and continued steadily throughout.

3. Cotton

* Kurnool, Bellary, Cuddapah, Kistnah, Nellore, Coimbatore, Madura, Tinnevely and Salem.

II.
Madras.

3. Cotton sowing is still being carried on, and there is just at present a cessation of rain highly favourable to the young plants now requiring sun and dry weather.

4. We may reasonably expect that the returns for the present month will prove very satisfactory as regards cotton cultivation; so that during the current season a large increase over that of last fasli may be fairly anticipated. The average price of cotton ruling throughout the district for the last three months is 154 rupees per candy.

— No. 42. —

(No. 80.)

From *P. Grant*, Esq., Collector of Coimbatore, to the Honourable *T. Pycroft*, Chief Secretary to Government, dated Coimbatore, 15 October 1862, No. 67.

Sir,

1. IN reply to the proceedings of Government of 4th instant, No. 2136, I beg to report that the state and prospects of cotton cultivation in this district for the current season are very unfavourable.

2. The statistical information regarding the state of the cotton market, at home received from time to time from the Board of Revenue has been duly published in the "District Gazette" for the information of the ryots engaged in the cultivation of cotton, but the state of the season from want of rain has been so unfavourable, that the cultivation of cotton from July to September is 36,471 acres less than it was in the corresponding period of last year.

3. The accompanying statement exhibits the present state of cotton cultivation so far as the actual breadth of land under that crop is concerned, but as to the state of the crop it is silent, and I fear it is useless to look for more than half the usual crop, if even so much. The province of Coimbatore has always been known in the market as a cotton producing country. A very considerable change has, however, come over the spirit of the people in regard to cotton; laying aside the consideration of the present state of the market with its unnatural prices, for some years the price of Indian cotton has not been high or certain; whilst the prices of all kinds of cereals have been steadily rising every year, until they have attained a value some 50, 60, and 100 per cent. higher than they were a very few years ago. The consequence is that much land which was formerly ploughed for cotton is put under cereals, for which there is this high demand in the local markets.

4. The pulsation of a local market the ryots can understand and grasp, but the sympathy between a foreign and local market requires more knowledge than they possess; the result is that the local market and its requirements receive a readier and more attentive consideration. A ryot ploughs his land intending to sow cholum or raggi, whilst his plough is going he dwells on the pleasing fact, ever present to his mind, that he used to get 8 annas for so much grain, whereas merchants will now come to his threshing floor at harvest time, and be glad to take the same quantity of grain at 1 rupee; if he ploughs to raise a cotton crop, he feels that he has entered on an uncertain speculation, the prices he knows not, with the circumstances which influence them he is unacquainted, and the purchaser who comes in contact with him he finds, it is to be feared in very many cases, a too sharp practitioner; all the above are circumstances which bear adversely on the prospect of cotton cultivation.

— No. 43. —

(No. 81.)

From *A. Hathaway*, Esq., Collector of Bellary, to the Honourable *T. Pycroft*, Chief Secretary to Government, Fort Saint George, dated Bellary, 16 October 1862, No. 47.

Sir,

1. IN reply to the proceedings of Government, No. 2136, of the 4th instant, I have the honour to state, that the extent of land under cotton cultivation in this district,

district, during the current year up to the end of last month, was 160,253 acres, being an excess of 259 acres, as compared with the same period of last year.

2. It is likely that the cultivation will increase during the next two months.

3. The present crops are in a good state, and it is believed that they will yield well.

II.
Madras.

— No. 44. —

(No. 82.)

From *A. Wedderburn*, Esq., Collector of Cuddapah, to the Honourable *T. Pycroft*, Chief Secretary to Government, Fort Saint George; dated Cuddapah, 24 October 1862, No. 27.

Sir,

1. In reply to the order of Government, dated 4th October 1862, No. 2136, I have the honour to report that the cultivation of cotton this season is 34,868 acres, against 25,920 in last season; increase 8,948. The anticipation of a rise induced a larger cultivation of last season of 34 per cent. above the previous one. Last year was an unfavourable season for cotton. After it is sown, rain is required to bring up the plant. Now the rain failed entirely last October; with such drawbacks, the increase of cultivation was great, but the crop not a good one.

2. I hope for better prospects this year. In April last, I considered that there were sufficient indications of a permanent rise as to assure the ryots that it would be a profitable crop, they were consequently prepared to sow largely, but unfortunately June, July, and August of this year were unfavourable for ploughing, and without rain sowing is a mere waste of seed. In the latter end of August, and during September, the season was better. The increased price of cotton is well known to the ryots.

3. I think it as well to mention that the high price of cotton is not altogether an unmixed advantage. The district being drained for a foreign market, the local price has raised the price of the people's clothing, and has induced great distress amongst those native weavers, who have not land to fall back upon for their subsistence. Those who cannot afford the enhanced price of clothes will go without, and the weaver's loom follows the same course as the factory. The railway works in progress fortunately afford a means of employment and subsistence to this distressed class.

— No. 45. —

(No. 83.)

From *J. W. B. Dykes*, Esq., Collector of Nellore, to *T. Pycroft*, Esq., Chief Secretary to Government, Fort St. George; dated Nellore, 31 October 1862, No. 36.

Sir,

I HAVE the honour to acknowledge the receipt of proceedings of the Madras Government* under date 4th instant, No. 2136, and report an increase in cotton cultivation in the lands held on Puttah, up to September, of 235 acres. In the Zamindari villages a decrease is shown of 3,707 acres. But neither of these results can, I think, be looked on as giving much indication of the year's outturn. And, if present prices continue, unquestionably there will be a large increase in the area under cotton.

* Revenue Department.

II.
Madras.

— No. 46. —

(No. 84.)

From *V. H. Levinge*, Esq., Collector of Madura, to *A. J. Arbuthnot*, Esq., Chief Secretary to Government, Madras; dated Madura, 14 November 1862, No. 643.

Sir,

IN reply to your official memorandum, No. 189, dated 6th November, I have the honour to report that the delay which has arisen in answering the proceedings of Government, No. 2136, dated the 6th October, is owing to the whole of the different Zamíndárs not having as yet sent in to me, as directed, the information required to enable me to make the necessary report; however, from personal observation, and from inquiries, I can confidently report that cotton has been more extensively cultivated this year than last, that the crops are very forward, and looking splendid. As soon as I get the returns from the Zamíndárs, who have been again called upon, I will furnish the statistics required.

— No. 47. —

(No. 85.)

From the Honourable *D. Arbuthnott*, Collector of Salem, to *J. D. Sim*, Esq., Secretary to Government, Revenue Department, Fort St. George; dated Salem, 24 November 1862, No. 64.

Sir,

1. WITH reference to the proceedings of the Madras Government, dated the 4th October last, No. 2136, I have the honour to enclose a statement, showing the cultivation of cotton in the Salem District during the current fasli, as compared with the past one. It will be seen from this statement that the land under cotton cultivation up to the end of the last month was *Acres* 14,811. 5. 14., assessed at *Rs.* 24,332. 13., or 1,100 acres, assessed at 2,684 rupees above the past year.

2. The cotton trade in this district is not large, and the cotton produced in the district is grown partly for local consumption and partly for Messrs. Fischer and Co., who make advances to ryots.

(No. 86.)

ORDER thereon, 5 December 1862, No. 2550.

ORDERED that these papers be laid on the editor's table, and communicated to the Chamber of Commerce.

J. D. Sim,
Secretary to Government.

STATEMENT showing the State of COTTON CULTIVATION in the Madras Presidency in Fasli 1272.

District.	Extent of Cultivation.				REMARKS.
	In Fasli 1271.	In Fasli 1272.	Increase.	Decrease.	
	Acres.	Acres.	Acres.	Acres.	
Kistna District -	47,783	74,229	26,496	-	The crops are in a promising state, but as heavy rains are prejudicial to this crop, the true results, and the total area cultivated, can only be precisely stated in December.
Nellore - -	-	-	235	-	The collector does not specify the actual extent of cultivation. The increase cannot be looked on as giving much indication of the year's outturn. If present prices continue, unquestionably there will be a large increase in the area under cotton.
Cuddapah - -	25,920	34,868	8,948	-	The rise in the price is the cause of the increase. June, July, and August were unfavourable for ploughing. In the latter end of August, and during September, the season was better. There has been an increase in the price of the people's clothing, and great distress prevails amongst the native weavers generally. The railway works, however, afford a means of employment and subsistence to this distressed class.
Bellary - -	159,994	160,253	259	-	It is likely that the cultivation will increase during the next two months. The crops are in a good state, and it is believed that they will yield well.
Kurnool - -	14,099	54,346	40,247	-	Had the season been more favourable than it is, a larger extent of land would have been cultivated. The rains, which usually fall in July and August, were sadly deficient. Cotton sowing continues, and a large increase may fairly be anticipated. The average price for the last three months was 154 rupees per candy.
Madura - -	-	-	-	-	Promises to furnish figures hereafter. States, however, that cotton has been more extensively cultivated this year than last, and that the crops are very forward and look splendid.
Coimbatore - -	43,640	7,169	-	36,471	The decrease is owing to want of rain. The yield is not likely to be more than half the usual crop. The cotton prices being uncertain, and the prices of all kinds of cereals having steadily risen to a high figure, much land used for cotton cultivation was transferred to that of the cereals.
Salem - -	13,711	14,811	1,100	-	The cotton trade in this district is not large, and the cotton produced is grown partly for local consumption and partly for Messrs. Fischer & Co., who make advances to ryots.

— No. 48. —

REVENUE DESPATCH to Madras (No. 48, dated 25 November 1862).

1. WITH reference to my Despatch, dated August 14th (No. 32), of 1862, I have to inform you, that the second instalment of cotton seeds which has been received by Mr. Markham, from the Peruvian valley of Piura, was transmitted to the Chief Secretary of your Government, by the mail which left Southampton on the 20th instant.

2. I forward 20 copies of notes on cotton cultivation from Mr. Spruce, of Guayaquil, and Mr. Blacker, Her Majesty's Vice-consul at Payta; the former, because it contains some information respecting the method of cultivating perennial

II.
Madras.

perennial cotton, adopted in the interior of Peru, and the latter, because the exact time is given that the Peruvian coast cotton plant of the Piura valley, requires to attain bearing maturity.

3. I also transmit 20 copies of a report by Mr. Kendall, the Peruvian Consul, on the cotton of the Peruvian coast valley of Nasca, in the province of Yca.

Enclosure 1, in No. 48.

NOTES ON COTTON CULTIVATION.—From Mr. Spruce.

Guayaquil, 25 September 1862.

FROM what I can learn, the cottons cultivated with most success in the coast valleys of Peru, are arborescent species, probably forms of *Gossypium Peruvianum* and *arboresum*. As they are nourished entirely by irrigation, and the same plant lasts several years, they may be sown in any month, but the crop seems to be gathered in the summer months, after the solstice of December, and the harvest lasts some two months, say February and March. A cotton plant yields little the first year (about 6 lbs.), but in the second year, at least five times that quantity.

The Piura cotton, as I see it growing at Chonana, near Guayaquil, is arborescent, but the plant is very slender and delicate, and it is difficult of cultivation here, for it cannot be sown later than January, in which month so little rain has usually fallen, that the earth is scarcely sufficiently moistened, and the bulk of the fruit does not ripen until the following December, when, in some years, the weather begins to be showery, and the crop is liable to be much injured.

The *Algodon Criollo* (or Creole cotton), which flourishes best near Guayaquil, seems a variety of *G. arboresum*. It admits of being sown in February, when the ground is already so well moistened that germination is speedy and sure, and the first crop is gathered in the following October and November. Each succeeding year, the same plants produce fruit in the dry season (between June and December). This sort of cotton is as white as that of Piura, and the fibre is longer and stronger, but scarcely so soft.

A good deal of cotton, of great length and strength of fibre, is grown at Maynas,* at Tarapoto and Lamas, from 1,200 up to 2,500 feet elevation. The plant seems a variety of *Gossypium arboresum*. It produces abundant crops for four or five years, and may be maintained for eight or ten years without being renewed. It is often sown in December, along with rice,† where it grows slender and tall, and makes much wood, but little cotton. It is better sown alone in February; the plants then grow more dwarfish, but yield better. From the sowing of the seed to the ripening of the crop, the interval varies from six to twelve months. After the first crop is gathered, the trees are polled at a little over four feet from the ground. The pollards, called "*quirúmas*," throw out many branches, and produce far more fruit than unlopped trees do. A few cotton trees were planted near my house at Tarapoto. How long they had existed there I know not, but during the time I remained there (nearly two years) they were continually producing, and the owner gathered a few capsules from them nearly every day, although the greatest yield was between the equinox of September and the solstice of December. From the latter period until the equinox of March, or still later, the reproduction was somewhat lethargic, though by no means in complete repose. No doubt, this perpetual harvest of cotton, and its excellent quality, are due to local causes, and the same variety transported to another site, might change its habit and deteriorate in quality.

The climate of Tarapoto is one continual summer. I think more rain falls in March than in any other month, but what we call "a downright rainy day" scarcely ever occurs, and even three showery days together are very rare, though I have known such an occurrence do damage to the cotton that happened to be ripe at the time.

Lamas (2,500 feet above the sea) is a curious conical hill, apparently a rudimentary volcano, covered in many places with a rich red loam, in which almost anything will grow; but irrigation has to be employed, for the climate is as dry as that of Tarapoto, and though the hill has water, especially towards its summit, where there are sundry lakes, without inlet or outlet, yet that never dry up, it is not traversed by numerous fertilising streams, like the vale of Tarapoto.

The cotton grown at Tarapoto is the strongest I have seen anywhere in the world. Of its excellence, there can be no doubt; I have seen no finer cotton, and for length and strength of fibre, it is unequalled.

* Maynas is a forest-covered province, on the head waters of the Amazon, to the eastward of the Andes, with a very different climate from that of the coast valleys of Peru.

† Rice grown on hill sides, without irrigation.

Enclosure 2, in No. 48.

From Mr. Blacker, Her Majesty's Vice-Consul at Payta.

30 September 1862.

THE cotton plant in the Peruvian province of Piura yields a crop every six months, and the months for collecting the crops are June and December. Within about three months after the seed has been planted, the shrubs commence flowering; that is, about three months previous to the cotton being in a condition to be picked.

This is the general rule in the province, but as a matter of course, the class of soil and amount of moisture the plant receives, will contribute to accelerate or retard the growth and development of the plant itself. As a general rule, three months after planting, the flower makes its appearance, and three months later the cotton is fit for picking and ginning.

Enclosure 3, in No. 48.

REPORT ON PERUVIAN COTTON.

No. 11, New Broad Street, London,
26 August 1862.

Sir,

In sight of your letter of 22d instant, I beg to address you for the purpose of giving to the Cotton Supply Association of Manchester some information respecting the cultivation of cotton in Peru, the quantities exported from that country, and the means which might be employed there in order to secure a much larger supply that could be sent each year to Europe.

As it is now many years since I returned from Peru, the data on which I found my remarks not only result from my own observation, but are taken from the public papers of Lima, and from private information supplied me by Mr. Quintana. This gentleman represents, in the Exhibition of 1862, the house of Don Domingo Elias, the largest of the Peruvian cotton growers, whose mark is known in the markets of Liverpool, London, and Havre, and whose samples of that material have obtained from the International Jury a medal for good quality, the value being estimated at 2s. per lb. It is a quality, indeed, which, to make use of the expression of a member of your Committee, in his report published at Manchester during the present month, may be compared with the "middling New Orleans," to "good Pernambuco." I can, therefore, conscientiously assure the Association that my data are reliable, and that my object in thus calling attention to the cotton of Peru is not only to forward the interests of that country, but also to assist in forwarding the endeavour to supply a want so keenly felt in this country at present.

Cotton is an indigenous plant in Peru, and is produced all along the coast and in the mountainous districts of the interior. It is divided into various classes, but amongst the best is that which is produced on the plantations of Mr. Elias, where many experiments have been made both with the seed of the Peruvian plant and that of the United States. It is from the best qualities, resulting from these experiments, that the samples in the Exhibition are taken. But there is little or no difficulty in producing any description it may be desirable to cultivate; it is merely a question, as in the case of the "Sea Island," of the greater amount of care taken.

The cultivation of cotton in Peru would seem to be of very ancient standing, as may be inferred from the various manufactured articles constantly to be met with in the huacas or tombs in which the Indians were accustomed to conceal their wealth, 400 years ago, from the curious eyes and rapacious hands of their conquerors. The museums of Europe possess many specimens of these relics, and the Exhibition of 1862 shows an instance, in the shape of a large "*manta*" or cloak, obtained from the ruins of the ancient Indian city, called the "Grand Chimú," 300 leagues distant from Lima. The quality of this cotton is indisputably superior to that at present cultivated, perhaps owing to the fact that former inhabitants of Peru had at their disposal more extensive and economical means, in the way of manual labour for its culture, than the present generation are able to command.

Whatever then may be the seed planted on the coast, cotton can be produced there with great facility, and it is not too much to say that Peru alone could supply the English market, if her 600 Spanish leagues of coast were devoted to the cultivation of cotton; for it must be borne in mind that, from Tumbes to Arica, the temperature varies but little, with a total absence of frosts, and the cotton crops are produced twice, and, in some places, even three times a year.

On the Elias plantations, viz., at San Javier de la Nasca, the operation of sowing the seed is performed all the year, after the waters have descended from the Cordillera, in October to February, and have moistened the earth; for, as it never rains in these districts, there is not sufficient water to irrigate the plants by means of canals, more than once in each year.

The plants sown in March will produce their first crop in July of the following year, it being more considerable in the second year, and beginning to decline in the third. In the fourth year, consequently, the plants are always renewed. The quantity yielded on an average, free from seed, by the pods of each plant, may be set down at two pounds; but not

II.
Madras.

a few have been known to produce even seven pounds; nay, it is credibly assured that a plant in Piura was known to yield the incredible quantity of 12 pounds of raw cotton with seed.

The English and American ploughs are used in preparing the ground. Mr. Elias is indefatigable in the introduction of new agricultural implements likely to be of service, having even obtained a steam plough. The seed, however, is put into the ground by hands, so that when a plantation, say of six miles in breadth, is sown, it may well be believed that a large capital is required to pay the labourers; this is sensibly felt now that slave labour is no longer in use in the republic. Slavery was there abolished during the last revolution, and although humanity has been a great gainer, agriculturists are no small losers by the operation. I have been assured by Mr. Quintana that, when Mr. Elias had 700 negroes in his establishments, one half of them were employed in cultivating cotton, and his crops produced from 14,000 to 20,000 quintals; whilst, at this present time, he can scarcely get in 10,000 or 12,000, the remainder being lost through want of hands. As bearing upon this subject, it may be here related that, in former days, Mr. Elias was actually accustomed to purchase cotton of his own produce; for instance, when the daily amount of labour allotted to each negro was over, he would pay them a shilling for every 25 lbs. of cotton they brought in, as being gathered during the time which was set apart for the rest and recreation of the slave.

These facts will sufficiently prove how great the yield of these plants might be, if sufficient hands were only supplied to get in the crops at proper time; for it must be remembered that the cotton should be gathered from the standing plant, inasmuch as, once dropped upon the soil, it is either wholly lost, through being trodden on and soiled, or is much deteriorated by getting mixed up with earth and rubbish, and destroying the machines in extracting the seed.

The machines there used have hitherto been North American saw gins, but Mr. Quintana proposes making an experiment with the new machinery which the Manchester Association have recommended to him, as preserving the fibre of the cotton entire, and not breaking it, as the American machines invariably do; the result of which will be, that the cotton which now comes from Peru would be worth more than 18*d.*, at which it has been sold at Liverpool, if its long fibre were not cut and destroyed by using the old North American machinery, which Mr. Elias imported into Peru in 1836.

The actual "Elias" cotton crop is estimated at 12,000 quintals (Spanish quintals of 100 lbs. each), one half being gathered in February, the other half in August. The last crop was a bad one, but Mr. Quintana is aware that the crop of the present month has been abundant. Almost the whole of the February yield, sold for Liverpool, was sent *viâ* the Isthmus of Panama, in order to take advantage of the actual high prices. Mr. Elias, however, entertains great hopes of raising the character and amount of his produce, and his representative is now here, seeking more capital, at a moderate rate of interest, for the purpose of conveying emigrants from Europe and China, to assist him in working his extensive estates, which have been valued at 4,000,000 dollars, or 800,000*l.* sterling.

Besides the plantations of La Nasca, situated at 100 leagues from Lima, and with ports at 18 and 20 leagues distance, there are several others on different parts of the coast, both to the south and north. The former, however, as being perhaps the most important, and now in active operation, first engaged my attention, and I have thought fit to add the knowledge I possess of the labours of Mr. Elias. Of these I can speak with confidence, from its being thoroughly known to me.

The total export of Peruvian cotton annually may be set down at 30,000 quintals, whereof a portion of that of Piura finds its way to Mexico *viâ* Guaymas and San Blas, and the remainder comes to Liverpool and Havre. At this last-named port, not long ago, a lot of Mr. Elias' mark was sold at 155 francs the 50 kilos, say the quintal of 100 lbs. It is much used in France for stockings, night caps, and that sort of knitting known as tricot.

It may be said that, according to the foregoing statement, Peru contributes at the present time but a trifling quantity of cotton to supply the necessities of the Lancashire district; still, with the efforts of the Peruvian Government, which is devoting its attention to many useful undertakings, and with the aid of English capitalists, if it could possibly be directed in that quarter, Peru might, in a very short period, that is to say, in less than the time required by the United States to repair the evils of the war, supposing it were terminated in the present year, supply the English markets with great part of the cotton they require. It could, for instance, in a period of four years, export to England 1,000,000 quintals, provided the support it needs were freely extended to it.

It is for your consideration that these remarks are respectfully submitted, and if an apology be needed for the length to which they have unwittingly carried me, it may, perhaps, be found in the deep importance and vital interest of the subject to both countries.

I am, &c.

S. O. Sutton, Esq.,
Secretary of Cotton Supply Association.

Henry Kendall,
Peruvian Consul.

— No. 49. —

(Miscellaneous.—No. 6003.)

CIRCULAR.

1. THE Board observe from the statement of cotton and indigo cultivation appended to the price lists for July 1862, that the extent of land cultivated with cotton in July 1862, falls much below that cultivated in the same month of the last year, in the districts noted in the margin, and the same is the case in the extent of land under indigo in Nellore and Cuddapah. The Collectors concerned are requested to explain the large decrease, which they should have done in the column of remarks on the state of season in the price returns.

COTTON.

	Fasli 1271. Extent.	Fasli 1272. Extent.	Decrease.
Nellore - -	1,347	3	1,344
Cuddapah - -	9,073	403	8,670
Kurnool - -	9,263	550	8,713
Coimbatore - -	28,653	2,434	26,219
Salem - -	11,697	6,729	4,968

INDIGO.

	Fasli 1271. Extent.	Fasli 1272. Extent.	Decrease.
Nellore - -	6,259	2,781	3,478
Cuddapah - -	14,703	6,227	8,476

2. The Collectors were requested by the Board in their circular, dated 2d September 1862, No. 4753, to add a separate paragraph in their monthly season report, noticing whether the cultivation of indigo and cotton is increasing or decreasing, and the state of the crops. This almost all the Collectors have failed to do. They are now again requested to notice these points without fail in their future returns.

3. In the statement of cotton and indigo cultivation received from the Collector of North Arcot, for July 1862, the headings, "Faslis 1272 and 1273," should be altered into Fasli 1271 and 1272, the latter being the current Fasli.

To all Collectors.

W. Hudleston, Secretary.

— No. 50. —

(No. 67.)

READ the following Proceedings of the Board of Revenue, dated 2d October 1862. Read the following Letter from G. Banbury, Esq., Acting Collector of Kurnool, to W. Hudleston, Esq., Secretary to the Board of Revenue, Fort Saint George, dated Kurnool, 25 September 1862, No. 103 :—

Sir,

1. IN reply to the proceedings of the Board of Revenue, dated 9th instant, No. 6003, regarding the decrease in cotton cultivation, observable during the month of July last, as compared with the same month during the previous Fasli, I have the honour to state that, upon investigating the accounts, there proves to be in reality an increase of 550 acres in the present year.

2. The mistake has, I regret to say, arisen in the following manner :—The accounts submitted from the Nandicotcoor taluq, showed the area cultivation in July 1861, or Fasli 1271, to have been 9263 acres, whereas this represents actually the whole area cultivated in that taluq during the entire Fasli; the entry should properly have been left blank for July, as there was no cotton cultivation at all during that month in the last Fasli, whereas in the same month of the present year, 550 acres have been already sown. Cotton cultivation does not usually commence before the middle of August; due notice has been taken of this considerable neglect on the part of the taluq authorities in the preparation of their returns.

3. This error of 9,263 acres will also have been carried forward in the return for August, thus vitiating the account; I request, therefore, that this amount may be either deducted in the Board's office, or returned for correction.

4. I may mention, in connexion with this subject, that we may safely anticipate a large increase this year in cotton cultivation, and that the rains which had been sadly deficient until the end of the first week in September, have since then been most copious. All apprehensions of scarcity have disappeared, and agricultural prospects throughout the district look most encouraging, the freshes in the Hindry have not been so continuous and so high for many years.

ORDERED to be submitted for the information of Government, and that copy be furnished to the Chamber of Commerce.

W. Hudleston, Secretary.

II.
Madras.

— No. 51. —

REVENUE LETTER from Madras, dated 7 November, No. 80 of 1862.

1. IN our Despatch dated 4th March 1862, No. 10, we informed you that the Madras Chamber of Commerce had undertaken the duty of awarding to the cotton producers of this Presidency the prizes of 10,000 rupees offered by the Governor General in Council during 1861-62 and 1862-63.

Procs. of Govt.,	15 August 1862, Nos. 190—192.	2. We now forward for your information the papers
Do.	12 Sept. " " 198—200.	noted in the margin, relating to the award by the Chamber
Do.	29 " " 534, 535.	of the prize for 1861-62, and the terms on which prizes
Do.	7 October " " 83, 84.	have been offered during the current season 1862-63.
Do.	5 Nov. " " 46, 47.	

3. The prize for 1861-62 has been awarded to Messrs. Fischer & Co., of Salem, but it is a matter of regret that the object for which it was instituted, has not, as regards that season, been attained. There was little or no competition, as Messrs. Fischer & Co., and Bali Reddy, of Cuddapah, were the only cotton growers who competed. The causes of this failure are pointed out in the Chamber's proceedings of 30th July 1862, which, together with the revised rules proposed by them for the prize of 1862-63, will be found recorded in our proceedings of 12th September, No. 1952.

4. We concurred in the opinions expressed by the Chamber, and saw reason to believe that the alterations in the terms of the prize for the current season suggested in the Chamber's revised rules would ensure a more extended competition. These alterations consist in a division of the amount of the prize, 10,000 rupees, into several smaller prizes; in the allotment of distinct prizes to indigenous and exotic cottons, and in the reduction of the area to be sown with cotton. We accordingly approved the revised rules, with a few modifications, and, with the permission of the Government of India, have caused a notification based thereon to be drawn up and published, with vernacular translations, in the Fort St. George and district gazettes. Copy of this notification, dated 7th October 1862, is enclosed.

Enclosure 1, in No. 51.

(No. 190.)

READ the following Letter from the Hon. *R. O. Campbell*, Chairman, Chamber of Commerce, to *J. D. Sim*, Esq., Secretary to Government, Revenue Department, dated Madras, 31 July 1862:—

Sir,

1. I HAVE the honour to acquaint you that this being the latest day fixed for the reception of samples of cotton for competition for the Government cotton prize of this year, for this Presidency, two samples only have been received by the Chamber, and in only one of these has the cotton produced been stored in godown at Madras.

2. The Chamber has fixed Saturday next the 2d proximo, at 3 p.m., for the adjudication of the prize.

3. As the Chamber have reason to attribute the want of greater competition, on the present occasion, to the fact that not sufficient time was given to enable intending competitors to prepare the ground and sow the seed at the proper season, it is respectfully recommended that Government should at once promulgate the rules of competition for next year's prize.

Enclosure 2, in No. 51.

(No. 191.)

ORDER thereon, 15 August 1862, No. 1733.

1. THE promulgation of the rules of competition for the cotton prizes of 1862-63 rests, the Government observe, with the Government of India, as in their Resolution dated 9th August 1861 (para. 5), they stated that the conditions therein specified applied to the then current

current season (1861-62) only. It is not improbable that some modifications may be made in the rules for the second year's prize. The present letter from the Chamber of Commerce will therefore be forwarded to the Government of India.

2. The Chamber will, however, be requested to furnish, at an early date, the modifications in the terms for the second year's prize, which in para. 3 of their letter, dated 28th January 1862, they stated to be necessary.

T. Pycroft, Chief Secretary.

ORDERED that the following letter be despatched.

(No. 192.)

From *T. Pycroft*, Esq., Chief Secretary to the Government of Fort St. George, to the Secretary to the Government of India, dated 15 August 1862, No. 1734.

Sir,

I AM directed by the Governor in Council to forward, for the consideration and orders of the Government of India, a letter from the Madras Chamber of Commerce, dated 31st July 1862, together with copy of an order thereon, passed this day, on the subject of the early promulgation of the rules for the cotton prizes of 1862-63.

Enclosure 3, in No. 51.

(No. 198.)

READ the following Letter from *R. W. Norfor*, Secretary to the Chamber of Commerce, to *T. Pycroft*, Esq., Chief Secretary to Government, Fort St. George, dated Madras, 27 August 1862:—

Sir,

1. UNDER instructions from the chamber, I have the honour to forward herewith the chamber's proceedings in the award of the Government cotton prize for the year 1861-62 with its report upon the cottons submitted for competition, and upon the general results of the prize in this presidency.

2. A scheme for the division of the prize for the season 1862-63 is likewise sent, upon the subject of which the chamber has already addressed Government.

3. Accompanying are also forwarded copies of papers received by the chamber from Messrs. Fischer & Co., of Salem, to whom the prize has been awarded, containing valuable remarks upon the culture of exotic cottons, and upon the time at which it is necessary that the seed should be sown to ensure a successful result.

4. These papers contain so much useful information on the subject of cotton culture in the district of Salem, that the chamber respectfully submit them to Government with a view to their publication and circulation by means of the "District Gazette."

EXTRACT from the Proceedings of the Madras Chamber of Commerce, 30 July 1862.

Resolved, that the following gentlemen do form a committee of the chamber for awarding the Government prize:—

The Honourable R. O. Campbell, W. H. Crake, F. L. Bland, A. F. Brown, R. A. Robinson, Esquires.

That the committee do meet for the purpose at the office of Messrs. Parry & Co., on Saturday, the 2nd August, at 3 p.m.

That when informing Government of the day fixed for awarding the prize, it be particularly recommended that the rules for competition for the prize of 1862-63 be at once promulgated, in order that they be in advance of the planting season in the South, which begins in September, the notification last year having been issued too late.

II. Madras.

PROCEEDINGS of the Committee of the Chamber of Commerce appointed by Resolution of the Chamber to award the Government cotton prize of 10,000 rupees for the year 1861-62, held on the 2nd August 1862.

PRESENT :

The Honourable R. O. Campbell, W. H. Crake, Esq., F. L. Bland, Esq., A. F. Brown, Esq., R. A. Robinson, Esq.

Read—The Governor-General's resolution of date the 9th August 1861, offering the prize and stating the terms of competition, also the notification of the Madras Board of Revenue, dated 10th February 1862, with subsidiary rules.

Read—Letter from Messrs. Binny & Co., dated 21st June 1862, stating that two samples of Bourbon and one of Egyptian cotton are forwarded on behalf of Messrs. Fischer & Co., and that the cottons represented by them can be inspected at their godowns.

Read—Messrs. Fischer & Co., of Salem, letters and statements of 23rd May, 28th June, and 26th July, giving details of the method of cultivation and preparation of the cotton exhibited, with other particulars required.

Read—Also certificate by the acting head assistant collector of Coimbatore, that Messrs. Fischer & Co. had cultivated, with Bourbon and Egyptian cotton, three parcels of land in the talooks of Perundooray, and that each parcel so cultivated exceeded 30 acres.

Read—Letters and statement from Balee Reddy of Inmalamadgoo in the zillah of Cuddapah, dated 12th July and 20th July, the first forwarding sample of 10 lbs. cotton in two parcels, and stating that he will arrive at Madras in August with the cotton of which he sends samples.

These being the only competitors for the prize, the committee proceeded to the examination of the samples, viz., Messrs. Fischer & Co.

2 sealed parcels, each containing 10 lbs. Bourbon cotton.
1 ditto, 10 lbs. Egyptian cotton.

Balee Reddy—2 sealed parcels, each 5 lbs. containing indigenous Cuddapah cotton.

After a careful inspection and comparison of the samples, the committee resolve to report as follows, viz. :—

That the samples submitted by Messrs. Fischer & Co. are so greatly superior to those sent by Balee Reddy in every respect, that there is really no competition between the two exhibitors.

Balee Reddy's sample appears to be western cotton and probably a fair specimen of that description, but in the process of ginning no care seems to have been taken to clear it of leaf and dirt, and the saw gin would appear not only to have injured the staple, but to have broken much of the seed in the cotton, thus giving it a dirty and rugged appearance.

The produce of 73 acres cultivated by Balee Reddy comes out, from his statement, at 9,125 lbs. of seed cotton, or of clean cotton 2,281 lbs. as the whole produce, equal to 125 lbs. of seed cotton, or 31½ lbs. of clean cotton per acre; but of the produce there is no official certificate such as that required in Rule D. of the Governor-General's rules, and the reis no mention of the cotton produced having been sent to a shipping port within the presidency.

Messrs. Fischer & Co.'s sample of Egyptian cotton is of a yellowish tinge, partly due to the nature of this variety, and partly to staining from excessive moisture, the attacks of insects, or other cause. It is not, however, much stained. It has been carefully cleaned of leaf, seed and dirt, and the staple or fibre is all that could be desired, being long, silky, and strong; this is a very valuable cotton, and much cleaner than the Egyptian cotton of commerce.

The committee could detect no difference between the two samples of Messrs. Fischer and Co.'s Bourbon seed cotton, the staple is not quite so long or so silky as the Egyptian cotton, but greatly superior to the indigenous cottons of India in these respects, and fully equal to ordinary New Orleans. In the bloom and brilliancy of its colour it is unsurpassed, being entirely free from stain and leaf, perfectly clean and pure, and to all appearance uninjured by the process of ginning. Though not perhaps intrinsically so valuable a cotton as the Egyptian, it would probably fetch a higher price, from its perfect freedom from discoloration and dirt, and from the natural brilliancy of its colour.

Messrs. Fischer & Co. state that, from the causes detailed by them, the weight of clean cotton produced on the three parcels of ground on which it was grown, is so much below the ordinary crop that it may be considered a complete failure.

The produce is as follows :—

Egyptian	75 lbs. from 35 acres	} And the cotton is in Madras ready for information.
Bourbon	275 „ from 33 acres	
Do.	287 „ from 37 acres	

A further picking will be made in August, which will also be submitted when collected for the inspection of the chamber.

The committee award the prize to Messrs. Fischer & Co., conditionally on the samples submitted being found to represent faithfully the cotton delivered for shipment.

In communicating this award to Government, the committee recommend that the valuable

able remarks of Messrs. Fischer & Co. on the cultivation of exotic and indigenous cottons be published for general information.

They further recommend that no time be lost in arranging and publishing the terms of the competition for the prize or prizes for the season of 1862-63, and with the view of saving time, they submit accompanying a scheme for the consideration of his Excellency in Council.

They observe that in the present season the munificent liberality of the Government in offering a prize of 10,000 rupees in this Presidency for the best field of cotton has totally failed of its objects. That the failure arises from several causes. The following are probably the principal:—

1st. The shortness and unsuitableness of the time allowed for producing exotic cotton as pointed out by Messrs. Fischer & Co.

2nd. The terms of the Governor General's resolution left no chance of successful competition, and therefore offered no encouragement to the grower of the indigenous description of cotton, Tinnevely, Western, Northern, &c.

3rd. The very magnitude of the prize, coupled with the fact that there was only one, would probably deter humble native cultivators at a distance from entering the lists in competition, for what they might reasonably assume would be an object of ambition to the wealthy of their own countrymen, as well as to European landholders and capitalists, and therefore far beyond their reach.

4th. Probably the quantity of land required to be cultivated would also prove a hindrance to very many.

The accompanying scheme has been framed with a view to avoid these causes of failure in the present season.

The Committee again met at the godowns of Messrs. Binny & Co., on the 4th August, to compare Messrs. Fischer & Co.'s samples with the cotton delivered, when they were found to correspond in every respect.

RULES for the Cotton Prize of 1862-63, recommended by the Chamber of Commerce.

THAT in place of one prize of 10,000 rupees, the sum should be divided in the following manner:—

For the best quality and largest quantity produce of indigenous cotton, the produce of districts south of Madras; viz.,

Tinnevely, Madura, Coimbatore, Salem, Tanjore, Trichinopoly, South Arcot, Chingleput—

1 prize	-	-	-	-	-	-	2,000 rupees.
1 „	-	-	-	-	-	-	1,000 „
1 „	-	-	-	-	-	-	500 „

For the best quality and largest quantity produce of indigenous cotton, the produce of districts north and west of Madras; viz.,—

Cuddapah, Nellore, Bellary, Kurnool, Rajahmundry, Vizagapatam, Ganjam—

1 prize	-	-	-	-	-	-	2,000 rupees.
1 „	-	-	-	-	-	-	1,000 „
1 „	-	-	-	-	-	-	500 „

For indigenous or acclimated cotton, the produce of the districts of Hyderabad, including Berar, Rachore, Nagpore,—

1 prize of	-	-	-	-	-	-	1,000 rupees.
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For the best quality and largest quantity produce of exotic cotton, the produce of any district in the Madras Presidency—

1 prize	-	-	-	-	-	-	1,500 rupees.
1 „	-	-	-	-	-	-	500 „

That the area of cultivation be reduced to 10 acres in the hands of one cultivator.

That no prize shall be awarded to any exotic cotton unless the produce of the 10 acres amount at least to 60 lbs. of clean cotton per acre, and that no prize shall be awarded to any indigenous cotton, unless the produce is at least 40 lbs. of clean cotton. The whole quantity grown must be exhibited, and each sample must be accompanied by a certificate from the chief European revenue officer of the district in which it is grown to the above effect.

II.
Madras.

From Messrs. *Fischer & Co.*, Salem, to the Secretary to the Chamber of Commerce,
Madras, dated 23 May 1862.

Sir,

HEREWITH we beg to send the Chamber of Commerce as required by A. one of the conditions of the resolution by the Governor General of the 9th August 1861, three sealed samples of the Egyptian and Bourbon cottons, one of the first and two of the second, grown by us in three different localities, to compete for the prizes offered by the said resolution, and they are accompanied by a statement as required by condition G. of the system which has been pursued in the cultivation, with an account of all the expenses incurred therein.

The resolution of the Governor General is dated the 9th of August 1861, and only came to our notice in the Fort St. George Gazette of the 20th September 1861.

Condition A. states that "the prize will be given for the largest quantity of cotton, combined with the best quality which shall be grown upon any one estate within the Presidency during the season of 1861-62;" and immediately after is added, "and which shall be brought for shipment to any port in or before the month of June 1862."

Thus to be within the conditions of the resolution, we were obliged to cultivate the cotton out of the proper season, as is more fully explained in the statement. If our efforts have been a failure, the fault is not with us, but with the Government, in issuing the resolution at the time of the year that they did; and though those efforts be in a great measure a failure, if they surpass those of other competitors, we submit we are still entitled to the prize.

We will send the produce of the three farms up to the end of May to Messrs. Binny & Co., for shipment home, at whose godowns it can be inspected by the Chamber, to be within the conditions of the resolution of the Governor General; and as the plants will yield another crop in July and August, we will send that also to Messrs. Binny & Co., and trust it will be admitted as the produce of one season.

We do not think it will be out of place here to mention, that though we have cultivated the above-mentioned three plots ourselves especially to compete for the prize, we have besides caused to be cultivated, by making advances and taking agreements for it from the ryots, upwards of 1,000 acres of land with Bourbon cotton, the produce of which will be sent (some has already been sent) to Messrs. Binny & Co., for shipment. Some of the cotton grown by us last year in this way fetched as much as 1s. 1d. the pound. Messrs. Binny & Co. can show the account sales of it, if needs be.

The certificate required by the condition D. also accompanies this letter.

STATEMENT of the System pursued in the cultivation of Egyptian and Bourbon Cotton, the first in one locality, and the second in two other distinct localities, in consequence of the Resolution of the Governor General of the 9th August 1861, published in the Fort St. George Gazette of the 20th September 1861, to compete for the Prizes offered by the said Resolution.

IN consequence of the publication of the said resolution, we immediately, although entirely out of season, made agreements with the proprietors thereof, and took in three plots of ground, one consisting of 35 acres, in the village of Erode; another consisting of 33 acres, in the village of Palamungalem; and a third consisting of 37 acres, in the village of Erode; all three in the taluq of Perunthuray, Coimbatore district.

Rain fell towards the middle of September, and being pressed for time we ploughed and sowed the lands in a hurried manner, without manuring them as should have been done. The lands however had the advantage of having been previously cleared and cultivated and well fenced in.

Government imposed a difficult task upon us, and we have done our best to perform it. They forced us into the field out of season, and the consequence has been an almost total failure. It is no fault of ours, as we have done our best to meet the wishes of Government. These circumstances will, we trust, be taken into consideration in awarding the prize.

Government appear to have been guided as to the date of the publication of their resolution, and the time in which they required the cotton to be delivered, by the nature of the indigenous cottons of the country. These cottons are sown in September, and they yield only one crop which comes in in March and April; but the exotic cotton requires to be sown as soon as rain falls in May, as do dry grain crops, and it yields a partial crop in August, and a full crop in January or February following. The indigenous cottons are grown in the black clay soils of the country, but the exotic will only grow in light loamy soils.

The system of cultivation pursued with both the Egyptian and Bourbon cottons is the same, though the expense varies a little. But neither is a true criterion, for the reasons above mentioned, of the success or expense of cultivating them.

Both cottons, as we have stated above, were sown in September, and the lands for both were only ploughed twice. The second ploughing for turning in the seed which had been thrown broad-cast upon it after the first ploughing and sowing, took up from the 12th to the end of September. The plants sprung up luxuriantly enough during the partial monsoon we had, but began to fail extensively as soon as the dry weather set in, and such plants

plants as have escaped the drought have produced a little cotton, of which samples accompany this statement. The bulk of the crop will be sent for shipment to Messrs. Binny & Co., at whose godowns it may be inspected by the Chamber of Commerce.

II.
Madras.

The expense we have incurred in these three experiments are as follows:—

In the case of Egyptian cotton (No. 1), the seed for which was given us by Mr. Agnew, of the firm of Messrs. Line & Co.:—

For ploughing the land	-	-	-	-	Rs.	34	10	8
Weeding	-	-	-	-	-	5	8	-
Repairing fences	-	-	-	-	-	2	12	-
Two watchmen to guard the field, and mend fences to keep out cattle, from 1st October to 31st May					35	-	-	
Rent to Government for the land	-	-	-	-	10	12	9	
Total	-	-	-	-	88	11	5	

The yield up to the 31st May is 250 lbs. seed cotton, which will yield, free of expense, one-fourth its weight of clean cotton, the seed itself paying for the ginning.

We are about to re-plough and re-sow those parts of the fields which have failed, and with the rains we are having the old plants will yield another crop of cotton in August; this ought to be taken into account as the produce of one season.

In the case of the Bourbon cotton, Nos. 2 and 3:—

	No. 2.				No. 3.			
Ploughing cost	-	-	-	Rs. 30 5 4			Rs. 34 5 4	
Seed	-	-	-	7 8 -	-	-	5 1 -	-
Weeding	-	-	-	-	-	-	-	-
Repairing fences	-	-	-	20 - -	-	-	17 - -	-
One watchman	-	-	-	17 8 -	-	-	17 8 -	-
Rent of land	-	-	-	30 15 11	-	-	22 5 9	-
Total	-	-	-	106 5 3	-	-	96 4 1	-

The yield of seed cotton up to 31st May of No. 2, is 1,100 lbs., and of No. 3, 1,150 lbs.

The above is the mode of culture that has been pursued with these cottons; but the system that ought to be pursued in the cultivation of the exotic cotton, is to select carefully your land in the beginning of the year, giving the preference to light loamy and calcareous soils: the more lime there is in it the better, lime being essential to the production of good cotton. The neighbourhood of hills should be avoided, because the dampness of the atmosphere in their vicinity is injurious to the produce, and deteriorates the quality of the cotton, by begetting innumerable little insects or beetles of a red colour, which produce a disease, that not only stunts and destroys the pod, but also discolours the cotton.

Having thus chosen the land, the next thing to be done is to manure it well by penning cattle and sheep upon it, or by throwing plenty of cattle-manure upon it.

This done, ploughing should commence in April or May, as soon as sufficient rain has fallen to saturate the ground: the ploughing should be repeated three or four times, and the weather should be watched; and if it is likely that there will be continuous rain for a few days, the seeds should at once be sown. In this country this is done broadcast, and the seed is turned in by another light ploughing.

A month or two afterwards, the plough should be run through the ground to destroy weeds. This will for the time injure the plants, but that is of no consequence, as they soon recover. Immediately after the ploughing the plants should be "thinned off," where they are too close together, by pulling up the sickly or injured ones.

The fencing should be well looked after, as cattle and sheep are exceedingly partial to the plant.

The cotton thus sown in April or May will fructify and ripen during July and August following, when picking should commence; the crop, however, will be very small. No cotton should be picked before the pods are fully open, and before the cotton will admit of being readily drawn out by the hand from the pod. The picking should be done every other day during the season, so that no cotton be allowed to detach itself from the pod, and fall to the ground. As the sun makes the pod and its outer petals so brittle as to come off and mix with the cotton, and as the spinners complain that this injures the article for their work, the picking should be made in the morning only.

The next process is the separation of the wool from the seed. This is done in this country by what is called the hand-churka; we have lately introduced Forbes and Dunlop's patent roller-gins with success; 4 or 4½ pounds of good seed cotton will yield one of good clean cotton. The seed should pay for the ginning. The cotton is now ready for the market.

It may not be out of place here to mention that cotton cultivation is not so lucrative as some suppose. It is very precarious, inasmuch as success is dependent upon timely and moderate rains: too much rain at the time of fructification destroys the pods and injures

II.
Madras.

the wool; while the plant itself has many enemies, and is liable to many diseases. We have known an eclipse to destroy almost all the pods at the time upon the plant; at least the pods were blighted, and dropped off immediately after an eclipse, and no other cause for it could be ascertained.

Salem, 23 May 1862.

Fischer & Co.

This is to certify, that Mr. J. Fischer has cultivated Egyptian and Bourbon cotton in the three localities noted in the margin. The extent cultivated exceeds 30 acres in each locality—the quantity required by condition C of the resolution by the Governor General in Council of the 9th August 1861, for the encouragement of the cultivation of cotton.

In Palamungalem village,		
Bourbon cotton	- - 33 Acres.	
In Erode, Bourbon cotton	- 37 do.	
Egyptian cotton	- - 35 do.	

Coimbatore, 7 May 1862.

O. B. Irvine,
Acting Head Assistant Collector.

From Messrs. *Fischer & Co.*, to the Secretary to the Chamber of Commerce; dated Salem, 28 June 1862.

Sir,

SINCE writing to you on the 24th May, and sending you samples of cottons, grown by us to compete for the prizes offered in the Governor General's resolution of the 9th August 1861, the notification of the Board of Revenue, of the 10th February last, has been brought to our notice by our agents Messrs. Binny & Co., whereby we perceive we have omitted to comply with certain conditions required by the Board in addition to those contained in the Governor General's resolution; and these we now beg to supply by a supplemental statement, herewith enclosed.

SUPPLEMENTAL STATEMENT.

THE notification of the Board of Revenue of the 10th February 1862, requiring information in addition to the information required by the Governor General's resolution of the 9th August 1861, having entirely escaped our attention, and only now been brought to our notice by our agents, Messrs. Binny & Co., this supplemental statement, containing such additional information, is submitted.

Statement of particulars required by the Board are,—

1. Extent of lands sown, whence seed was procured, and the quantity of seed used per acre.

The first point of the information here required is given in our former statement. With regard to the second, the Egyptian seed was obtained from Mr. Agnew, of the firm of Messrs. Line & Co.; the Bourbon seed from our own sowings of the previous year. With regard to the third, the quantity of seed sown in the first farm was 224 lbs., in the second 500 lbs., and in the third 337 lbs.

2. Peculiarities of the situation, climate, and soil of the land.

The lands are generally broken and undulating, as is the case with all the lands throughout the taluq of Peroondoray. The climate is generally dry, and less rain has fallen this year than usual; and the soil in all three cases, though in appearance sterile, is loamy and calcareous, and yields fair crops of dry grain with ordinary good rain.

3. The date of sowing and the period of picking the crop.

This information is given pretty fully in our previous statement.

4. The mode of culture, whether irrigated or unirrigated, and the state of the weather from the sowing to the harvest.

This information is also given in the other statement, with the exception that none of the lands were irrigated. Indeed, in our opinion, irrigation is not suited for cotton cultivation. It forces the plant out of the order of seasons, and thereby renders it more liable to the accidents of seasons, and it causes the plant to run to wood and foliage, giving but little produce, and, though last not least, the cultivation will not pay the heavy expense of irrigation.

5. The quantity of cotton collected per acre, showing the net produce of clean cotton, and the weight of seeds.

This information is also given in our former statement.

6. The

6. The description of cotton gin used for cleaning the cotton, and its cost.

The cotton of all three farms was cleaned by the hand-churka, the cost of one of which is 10 or 12 annas, or if very well made 1 rupee. Forbes and Dunlop's gins, which we have lately introduced, cost 50 rupees each.

7. The quantity of cotton cleaned by one gin per day.

The churka will clean 16 lbs. of seed cotton per day. The Forbes and Dunlop's gin^s with two women, will clean 67½ lbs. per day. In the last case there should be a good supply of spare cog-wheels, as they wear away very fast.

The hire of a woman is one anna a day.

8. The cost of the cotton at the port of shipment, including all incidental charges, and giving full particulars in detail.

The cost of packing and carriage, added to the charges we have already given, will complete the information here required.

The cost of packing is four gunny-bags to the candy, which costs 3 rupees.

Cooly for putting and pressing cotton in said gunny-bags and sewing them up, is 4 annas.

The hire of bringing seed cotton from the villages to Erode is at the rate of 4 annas the bullock-load per 10 miles.

The railway hire for a candy of cotton from Erode to Madras, is annas 9-8 per Bengal maund (82½ lbs.)

Fischer & Co.

Salem, 28 June 1862.

Enclosure 4, in No. 51.

(No. 199.)

ORDER thereon, 12 September 1862, No. 1952.

1. WITH this letter the Secretary to the Chamber of Commerce forwards the Chamber's proceedings in the award of the Government Cotton Prize of 10,000 rupees for the year 1861-62, with a report on the cotton submitted for competition, and upon the general results of the prize in this Presidency.

2. The Chamber also submit a scheme for the division of the prize for the season 1862-63, and copies of papers received from Messrs. Fischer & Co., of Salem, to whom the prize has been awarded.

3. The Chamber of Commerce recommend that the valuable remarks contained in these papers, on the culture of exotic cottons and the time at which the seed should be sown so as to ensure a successful result, be made generally known by publication in the District Gazettes.

4. The Government observes with regret that the object for which the prize was instituted has not, as regards the present season, been attained. There have been only two competitors—Messrs. Fischer & Co., of Salem, and Bali Reddy, of Cuddapah. The causes of this failure are pointed out by the committee of the Chamber of Commerce, to whom the duty of awarding the prize was assigned. The Government concur in the opinion expressed by the committee, and they see reason to believe that the alterations in the terms of the prize suggested by the Committee will ensure a more extended competition.

5. These alterations consist in a division of the one great prize into a number of smaller prizes, in the allotment of distinct prizes to indigenous and exotic cotton, and in a reduction of the area required to be sown with cotton. The Government resolve to forward these papers to the Government of India, and to request their early attention to the rules prepared by the Chamber of Commerce for the prize of 1862-63.

6. In accordance with the recommendation of the Chamber of Commerce, the Board of Revenue will be requested to instruct all collectors to give the widest possible circulation to Mr. Fischer's statement on the subject of cotton cultivation in the Salem district.

7. This statement may be published as a supplement to the District Gazettes; and a sufficient number of copies of this supplement, both in English and the vernacular language of the district, should be struck off for distribution.

T. Pycroft,
Chief Secretary.

II.
Madras.

Enclosure 5, in No. 51.

ORDERED that the following letter be despatched:—

(No. 200.)

From *T. Pycroft*, Esq., Chief Secretary to the Government of Fort Saint George, to the Secretary to the Government of India; dated 12th September 1862, No. 1953.

Sir,

1. I AM directed by the Governor in Council to forward to you, for submission to the Government of India, copies of papers as per margin,* relating to the award of the Government Cotton Prize for the year 1861-62, received from the Madras Chamber of Commerce.

2. It is a matter of regret that, as regards the present season, the object for which the prize was instituted, has not been attained. There has been little or no competition, Messrs. Fischer & Co., of Salem, and Baly Reddy, of Cuddapah, being the only cotton growers who have competed. The causes of this failure are pointed out by the committee of the Chamber of Commerce, who were charged with awarding the Government prize, in their proceedings, of which a copy accompanies this letter. The Government concur in the opinions expressed by the committee, and recommend to the favourable consideration of His Excellency the Governor General the scheme which they have proposed. There is, the Government think, reason to believe that the alterations suggested in the terms of the prize will secure a much larger number of competitors. These alterations consist in a division of the amount of the prize into several smaller prizes, the allotment of distinct prizes to indigenous and exotic cottons, and the reduction of the area to be sown with cotton.

3. I am directed to request the early attention of the Government of India to my letter dated 15th August 1862, and to the rules now proposed by the Chamber of Commerce for the prize of 1862-63.

Enclosure 6, in No. 51.

(No. 534.)

READ the following letter from *E. C. Bayley*, Esq., Secretary to the Government of India (Home Department, Revenue), to *A. J. Arbuthnot*, Esq., Acting Chief Secretary to the Government of Fort Saint George; dated Fort William, 5 September 1862, No. 4778:—

Sir,

I AM directed to acknowledge the receipt of your letter No. 1734, dated the 15th ultimo, and in reply to state that the Governor General in Council authorizes the adoption of any modifications of the rules of competition for the Government Cotton Prize in the Madras Presidency which the Government of Madras may deem desirable for the current season.

ORDER thereon, 29 September 1862, No. 2115.

(No. 535.)

Resolved that a copy of this letter be furnished to the Board of Revenue, with a request that they will draw up and submit, at the earliest possible date, a notification offering the cotton prizes for the current season, based on the rules furnished by the Chamber of Commerce with their Secretary's letter, dated 27th August 1862, and alluded to in paragraph 5 of the order of Government dated 12th September 1862, No. 1952. The Government approve these rules, with a few modifications—viz., the omission of the prize of 1,000 rupees for cotton produced in the districts of Hyderabad; the inclusion of Godavery among the districts north and west of Madras, and the addition of another prize of 1,000 rupees for the produce of those districts.

T. Pycroft,
Chief Secretary.

* Letter from Secretary to Chamber of Commerce, dated 27 August 1862.

Extract from the Proceedings of the Chamber, dated 30 July 1862.

Proceedings of the committee of the Chamber appointed to award the prize, dated 2d and 4th August 1862.

Rules for the Cotton prize of 1862-63 recommended by the Chamber.

Letter from Messrs Fischer & Co. of Salem, dated 23 May 1862, with two Enclosures.

Ditto from ditto ditto, dated 28 June 1862, with one Enclosure.

Enclosure 7, in No. 51.

II.
Madras.

NOTICE.

Fort St. George, 7 October 1862.

WITH the sanction of the Supreme Government, the following revised rules are published, to be observed in competition for the Governor General's prize of 10,000 rupees for the production of cotton in the Madras Presidency in the current season, 1862-63.

Rule I. The total amount of 10,000 rupees will be distributed as follows:—

For the best quality and largest quantity of cotton from country seed, that shall be grown upon any one estate or holding during the season of 1862-63, and which shall be brought for shipment to any port in the Madras Presidency, in or before the month of June 1863.

For the produce of Districts South of Madras, viz:—

Tinnevelly	-	-	-	-	-	-	1 prize of -	-	Rs. 2,000
Madura	-	-	-	-	-	-	1 prize of -	-	1,000
Coimbatore	-	-	-	-	-	-	1 prize of -	-	500
Salem	-	-	-	-	-	-			
Tanjore	-	-	-	-	-	-			
Trichinopoly	-	-	-	-	-	-			
S. Arcot	-	-	-	-	-	-			
Madras	-	-	-	-	-	-			
									<u>3,500</u>

For the produce of Districts North and West of Madras; viz:—

North Arcot	-	-	-	-	-	-	1 prize of -	-	Rs. 2,000
Nellore	-	-	-	-	-	-	2 prizes of 1,000	-	2,000
Cuddapah	-	-	-	-	-	-	1 prize of -	-	500
Bellary	-	-	-	-	-	-			
Kurnool	-	-	-	-	-	-			
Kistna	-	-	-	-	-	-			
Godavery	-	-	-	-	-	-			
Vizagapatam	-	-	-	-	-	-			
Ganjam	-	-	-	-	-	-			
									<u>4,500</u>
									<u>8,000</u>

For the best quality and largest quantity of cotton from foreign seed that shall be grown upon any one estate or holding during the season of 1862-63, and which shall be brought for shipment to any port in the Madras Presidency, in or before the month of June 1863.

For the produce of any District in the Madras Presidency:—

1 prize of	-	-	-	-	-	-	-	-	Rs. 1,500
1 prize of	-	-	-	-	-	-	-	-	500
									<u>2,000</u>
Total									<u>Rs. 10,000</u>

The prizes will be awarded by the Madras Chamber of Commerce.

Rule II. The extent of land under cotton cultivation in each case must not be less than 10 acres, all belonging to one property, or held by one ryot, or cultivated by one superintendent.

Rule III. No prize shall be awarded for country cotton unless the produce of the 10 acres amount at least to 40 lbs. of clean cotton per acre, and no prize shall be awarded for foreign cotton, unless the produce of the 10 acres amount to at least 60 lbs. of clean cotton per acre.

II. Madras.

Rule IV. The fulfilment of the conditions of Rules II. and III. must be certified in each case by the chief European revenue officer of the district or subdivision in which the cotton is grown, and the certificate must be forwarded by each competitor with a sealed sample, containing not less than 10 lbs. of the cotton in question, to the Chamber of Commerce at Madras, with the necessary information as to the port at which the whole consignment is to be shipped, and a statement showing the following particulars:—

- (1.) Extent of land sown; seed of what species, and whence procured; the quantity of seed used per acre.
- (2.) Peculiarities of the situation, climate, and soil of the land sown.
- (3.) The date of sowing, and that of picking.
- (4.) The mode of culture, whether irrigated or unirrigated, and the state of the weather from the sowing to the harvest.
- (5.) The quantity of cotton collected per acre, the net produce of cleaned cotton, and the weight of seed left after cleaning.
- (6.) The description and cost of cotton gin used for cleaning the cotton.
- (7.) The quantity of cotton cleaned by one such gin per day.
- (8.) The cost of the cotton at the port of shipment, including all incidental charges, and giving full particulars in detail.

Rule V. The whole of the cotton produced on the 10 acres must be thrown open to inspection at the port of shipment by each competitor, and the consignment to which the prize is awarded will be inspected by the Chamber, and verified as corresponding with the sealed sample.

In case of its being desired to ship the consignment at an outport, the inspection of it will be made by some person specially nominated for the purpose by the Chamber of Commerce.

T. Pycroft, Chief Secretary.

NOTIFICATION.

IN cancellation of notification of this department, under date the 9th March 1861, relative to the stamps required on powers of attorney, either for the realization of interest on, or for the sale of Government promissory notes, notice is hereby given, that powers of attorney executed after the passing of Act X. of 1862, must be on stamped paper of the value prescribed in Article 43, Schedule A. of Act X. of 1862.

Schedule A., 43.—“Letter or power of attorney not being of the kinds provided for in Schedule B.” - - - - - Rs. 4

“If the letter or power of attorney be for the performance of one act only, and the value of the property to be dealt with, be expressed in the letter or power, and do not exceed 500 rupees - - - - - „ 1

COPY of the Standing Counsel's Opinion on the point, dated 10 Sept. 1862, is subjoined.

OPINION.

I ENTIRELY agree in the conclusions in the within letter of July 29th. It is very clear that Schedule B., Clause 8, does not in any manner relate to these powers of attorney, but only to such as are required in the conduct of cases before courts of justice or revenue authorities; therefore the stamp to be required in all cases for powers to draw interest, executed after Act X. of 1862, should be of (4) four rupees, except in the excepted instance at the end of Clause 43 of Schedule A., in which it ought to be a stamp of one rupee.

J. I. Harvey,

Officiating Accountant-General to the Government of India.

Fort William, Loan Office, 12 September 1862.

(No. 83.)

Read the following letter from *W. Hudleston*, Esq., Secretary to the Board of Revenue, to the Honourable *T. Pycroft*, Esq., Chief Secretary to Government, dated Madras, 30 September 1862.

Sir,

I AM directed by the Board of Revenue to submit herewith a notification of the terms on which the cotton prizes are offered in the current year, as desired in the Government order, dated 29th September 1862, No. 2115, Revenue Department.

(No. 84.)

ORDER thereon, 7 October 1862, No. 2162.

THE districts of Kistna and North Arcot should be included in the second prize circle, and in the first Madras should be substituted for Chingleput. With these trifling modifications, the Governor in Council approves of the Board's draft notification, and directs its publication with vernacular translations in successive issues of the "Fort Saint George Gazette." The Board of Revenue will be requested to circulate it to all collectors for early insertion in their Gazettes, and otherwise make its purport generally known throughout the provinces.

P. P. Hutchins,
Acting Deputy Secretary to Government.

(No. 46.)

Read the following Letter from *E. C. Bayley*, Esq., Secretary to the Government of India, (Home Department), to *T. Pycroft*, Esq., Chief Secretary to the Government of Fort Saint George, dated Fort William, 6 October 1862, No. 5493.

Sir,

1. I AM directed to acknowledge the receipt of your letter, No. 1953, dated the 12th ultimo, with enclosures on the subject of the award of the Government cotton prize for 1861-62, and of the rules now proposed by the Chamber of Commerce to the prize of 1862-63.

2. In reply, I am directed to refer you to my letter, No. 4778, dated the 5th ultimo.

(No. 47.)

ORDER thereon, 5 November 1862, No. 2351.

Ordered to be recorded.

P. P. Hutchins,
Acting Deputy Secretary to Government.

— No. 52. —

(No. 348.)

READ the following Letter from Messrs. Binny & Co. to the Secretary to the Revenue Board, dated Madras, 18 October 1862:—

Sir,

ON behalf of Messrs. Fischer & Co., we have the honour to apply for payment of (10,000) ten thousand rupees, the amount of the Governor General's cotton prize, awarded to them.

II.
Madras.

Enclosure in No. 52.

(No. 349.)

RESOLVED,—That the Civil Paymaster be instructed to pass the payment of the money on the production of the necessary vouchers.

T. Pycroft,
Chief Secretary.

— No. 53. —

REVENUE LETTER from Madras, dated 2 December, No. 86 of 1862.

1. WE have the honour to forward for your information the accompanying letters from Mr. F. C. Brown, of Malabar, on the cotton history of India, together with our proceedings thereon, dated 3d July, 29th October, and 19th November 1862, Nos. 1446, 2312, and 2437; to the second of which orders we beg to refer you for the observations we have recorded in reference to the suggestions made by Mr. Brown.

Proceedings of Government, 3d July 1862, No. 37, 38.
Ditto - - ditto 29th Oct. " " 383, 384.
Ditto - - ditto 19th Nov. " " 216, 217.

2. A letter from the collector of Cuddapah, dated 26th June 1862, contradicting certain assertions made by Mr. Brown respecting cotton cultivation in that district, together with one from the latter gentleman, expressing his regret for this unintentional misstatement, is also transmitted.

Procs. of Government, 24th July 1862, Nos. 338, 339.
Ditto - ditto - 19th Sept. " " 379, 380.

Enclosure 1, in No. 53.

(No. 37.)

READ the following Proceedings of the Board of Revenue, dated 9 April 1862, No. 2361:—

Read the following Letter from *P. Grant*, Esq., Collector of Malabar, to *W. Hudleston*, Esq., Secretary to the Board of Revenue, Fort Saint George, dated Calicut, 28th March 1862, No. 66.

Sir,

In reply to Board's
Miscellaneous Circular,
dated 2d October
1861, No. 5310,
dated 14th instant.

1. I BEG to forward, for the information of the Board, a letter from Mr. F. C. Brown, of Anjarakandy, on the subject of the growth of cotton in this country. The subject has engaged Mr. Brown's attention for many years, and the result of his matured judgment is, that large supplies of good cotton wool can be raised. With his own letter Mr. Brown has forwarded portions of the "Gardeners' Chronicle" and "Agricultural Gazette," in which are contained a series of letters written by Dr. Wight, former superintendent of cotton farms at Coimbatore on the cotton question, more especially with reference to its cultivation in India. The result of 13 years' practical experience, in connection with cotton culture in Coimbatore, is given in these letters, which are on that very account full of interest to many people in this Presidency. I would recommend that they be printed for general circulation or sale; in either I shall be glad to receive half a dozen copies.

2. Mr. Brown's papers I request may be returned for re-transmission to him when no longer required.

"THE QUESTION OF COTTON SUPPLY."

From Mr. *F. Brown* to *P. Grant*, Esq., Collector of Malabar, dated Anjarakandy,
14 March 1862.

Sir,

1. AFTER a diligent search of our records, I regret much to say that those relating to the cultivation of cotton by my father, the late Mr. Brown, can no longer be found. They must have shared the fate of his house, when, in 1803, it was burned to the ground with everything it contained, by the rebels of Cotiote, my father, mother, and family, escaping with

with bare life. But I have the distinct and oft-repeated testimony of my father to myself, detailing the results of his careful cotton growing experiments; that he tried every kind, native and foreign, of which he could procure the seed; that every kind flourished, flowered, and produced abundance of excellent cotton, of more than average length of staple, all except the Pernambuco, the flower of which was always eaten up by an insect peculiar to the plant, brought apparently with the seed from Brazil, its parent country.

2. Of the foreign varieties tried, all perennial plants, the Bourbon cotton proved best suited to the soil and climate of this part of North Malabar. The samples of this kind which Mr. Brown sent to London sold readily at 1s. 6d. to 1s. 8d. a pound. This import must have taken place in 1801-2, 60 years ago. But the culture of cotton over the face of our steep rugged hills, where manual labour can alone be used, proved too laborious and costly to be remunerative to an English grower. In 1800, the year after Tippoo's fall, and the acquisition of Coimbatore by the Company, Mr. Brown tried to export Coimbatore cotton from Malabar to England; but first, the heavy land tax levied directly on all cotton land; next, the utter want of roads from the cotton districts to the coast ports; and last, but by no means least, a freight of 50*l.* a ton, which the Company in those days charged to the private Englishman on every article of Indian produce he was suffered to export to England on the Company's ships, the only ships allowed to come to India, made this attempt to open the cotton trade a ruinous one. The Englishman in India being thus driven by his own countrymen from his natural cotton market, the market of England, the American slave cotton grower stepped in, took undisputed possession, and has reigned supreme in it from that hour up to the hour of the disruption of the United States. Thus is, summed up, the history of the cotton question as beheld in India and in America at the present time.

3. To revert to our records, their destruction, however much a regrettable personal loss, has now become of no moment publicly, inasmuch as I am in a position to place before you evidence of the freshest date, of official authority, and of the first scientific character, detailing the naturalising and the successful growing of American cotton in Coimbatore by the natives, under English superintendence, during a period of thirteen consecutive years; and this not on a garden tract, but over some thousand acres of a soil in which India abounds, the well-known black cotton soil.

4. If the passing internal history of British India ever survived in Englishmen's memories for a dozen or a score of years at a time, it would be unnecessary to introduce this evidence with the following preface. In the year 1840 the notorious National Bank of the United States, which in a year or two more stopped payment, organised a scheme under its Governor, Mr. Nics. Biddle, for monopolizing the whole cotton crop of the States, and of selling it at the Bank's price to all the consumers of Europe. At this news, Liverpool merchants and Manchester manufacturers rushed to Cannon Row and the India House, the manufacturers almost bent on storming the India House, unless a supply of cotton were immediately obtained from India. Captain Baylis, who was on furlough in England, was sent to the Cotton States, with orders and money to engage ten American planters on their own terms, with all their own implements of cotton cultivation, and with a large supply of American cotton seed, bring them to England, and take them to India, for the purpose of teaching the natives how to grow cotton. Captain Baylis soon returned with his squad of recruits, armed with their own ploughs and cultivators, and speedily departed with them, and with tons of seed for Bombay. Arrived there, the Americans were dispersed, generally two together, over the three Presidencies, an area of more than 1,000,000 square miles.

5. Of the planters who fell to Madras, two were sent to Coimbatore. The civil surgeon at that time of the station was Dr. Wight, a botanist of European as well as of Indian wide-spread scientific reputation. Dr. Wight received charge of the Americans to the following extent: he was to see them provided with the land they themselves should select, and furnished with every requisite they desired for its successful cultivation with American cotton upon the American plan; he was to look on, attentively follow their operations, and report the result, but he was specially restricted from interfering in those operations, or in any manner directing them. Dr. Wight was further instructed to distribute American cotton seed among the native farmers of Coimbatore, and in order to stimulate them to make trial in growing this foreign cotton, he was authorised to engage to buy from the farmers all the American cotton they should produce. Simultaneously associated with Dr. Wight in the conduct of the mechanical part of the experiment was an intelligent Scotch engineer, named Petrie, who arrived from England plentifully stocked with the latest home improved gins for ginning cotton, and the latest improved screws for screwing it into portable bales. These machines were set up at Coimbatore at considerable cost, and worked successfully throughout the duration of the experiment.

6. The American planters thus furnished *ad libitum* with land, money capital, labour, plant, seed, manure, and every improved instrument of American construction, began their cultivation of American cotton upon the latest and best American plan. Side by side with them, the Coimbatore farmers proceeded to cultivate the same cotton upon their land upon their own, or native, immemorial plan; the farmers not only not receiving one of the extrinsic aids supplied so liberally to the Americans, but being weighted in addition with the annual tax upon all their cotton land.

II. Madras.

7. This joint experiment was begun in the year 1840, twenty-two years ago, under Dr. Wight's special official supervision, was continued under it for thirteen successive years, and closed as regards him only on his resigning the service in the year 1853. It is from his retirement in England, and through the press of England, that in the year 1861 the cotton public learn for the first time, in a shape that is accessible and readable by all, the undisputed results of this great experiment. Those results are summed up under the following heads:—

(1). That at the end of three years, the American planters completely exhausted the fertility of their soil by cropping it with cotton year after year.

(2). That in the fourth and fifth years their cotton crops were not worth gathering.

(3). That at the end of the fifth year, the planters retired from the field altogether, confessing candidly that they could not compete with Coimbatore farmers in growing equally good, and equally cheap American cotton per acre.

(4). That the planters proved to be mere croppers of the soil, not farmers in any sense of the name.

(5). That the planters further confessed, that instead of their teaching, they had been taught by the Coimbatore farmers by what system alone cotton can be cultivated successfully for a series of years without exhausting the fertility of the land on which it is grown.

(6). That in practical demonstration of this truth, whereas the American planters were beaten out of the field in three years, the Coimbatore farmers, at the end of their 13th year of trial, produced from American seed of their own raising a cotton crop as good and as abundant as was produced by the planters the first year from the fresh seed they brought with them from the cotton States.

(7). That this cotton, more than fully equal in quality and quantity, acre for acre, to the cotton produced by the planters, was produced at one-half the cost of the cotton of the planters.

(8). That the experiment was not a mere garden experiment, but a trial of years, carried on over some hundred acres of land; the end of which was, that the seed of American cotton was naturalised with complete success in the soil, climate, and agriculture of Coimbatore.

(9). That the Coimbatore farmers accomplished this great result by the simplest and, at the same time, the most judicious means by growing cotton upon the same land only in rotation of other crops, which long experience has taught them to select as best adapted to their soil and climate, and best suited to restore to the land the fertility of which it is exhausted by so scourging a crop as cotton.

(10). That in the single province of Coimbatore, there are two millions of acres of the well-known black cotton soil, on which the naturalised American cotton would thrive perfectly, and that "the plant not being fastidious in its tastes," succeeds on soils of other kinds, when it is grown with the requisite farming knowledge and skill.

(11). Hence that the production of American cotton in India, under these requisite conditions, may be said to be without limit.

(12). That the indigenous cotton of Coimbatore proved, after many trials, unsusceptible of any improvement, whether in quality or in increased length of fibre, or in facility of parting with its seed, and that during a year of drought, when this cotton failed altogether, the naturalised American lived through and gave a crop.

(13). That for freeing cotton from the soil without injury to the staple, the native churka succeeds better than the English or American saw gin.

(14). Lastly, that besides following immemorially upon all dry land a judicious rotation of crops, calculated to restore and increase its fertility, the basis of Indian agriculture, for tens of centuries, has been a practice which is now only becoming generally the basis of English scientific farming; namely, the complete stirring up and comminution of the soil, and its thorough aeration to as great a depth as the best mechanical implements known in each country will penetrate.

8. Such is the decisive testimony given by so able and competent a witness as Dr. Wight, of the issue of growing American cotton in the south of India by American cotton planters side by side with native farmers. To add to its value, it is given to the world after he has carefully compared for eight or nine years his 20 years' observation of Indian farming, with modern English scientific agriculture, and satisfied himself what the one in its native domain has to learn from the other. The sum total is not great, when Dr. Wight states his belief that the native farmer, with his plough and bullocks, prepares his soil for his crop in quite as efficient a manner as does the English agriculturist with his steam-plough, costing hundreds of pounds.

9. Do I at all exaggerate in calling this evidence of world-wide moment? After food, cotton, at the present day, has become the next necessary of life to all men, whether barbarous or civilised. By what chance is it that this evidence finds the light after nearly a quarter of a century's oblivion? By the merest possible accident.

10. The Cotton Supply Association ventured last year to put forth in "The Times" some random assertions relative to the causes of the failure of the American planters sent to India in 1840. These assertions were vigorously met by Mr. Petrie, the cotton engineer. The hot polemic waged between the parties on such a subject naturally attracted the attention of

of Dr. Wight. He came to the aid of his quondam Coimbatore ally in refutation of the association; but carefully avoiding all controversy, and preserving the strict character of a scientific and cautious observer, he chose as his organ, for addressing more especially the practical and educated public whom he desired to inform and instruct on the capabilities of India to produce good, cheap, and abundant American cotton, the columns of "The Agricultural Gazette," a weekly journal of modern English scientific agriculture and horticulture.

11. To this journal Dr. Wight sent a series of eight able and thoroughly reasoned letters, dated from the 21st October to the 9th December 1861, detailing at length the beginning, the progress, and the end, as long as he himself witnessed them, of the Coimbatore American cotton experiments, which I have taken upon myself to summarise very imperfectly. The last letter, in its conclusion one of the most valuable of all, has only lately reached me. I have separated the series from the rest of the journal, and do myself the honour of sending them to you separately.

12. I need not invite you to read them, who take so great and active an interest in every matter calculated to augment the agricultural wealth and productions of South India. After you have read, and perhaps re-read them, I think, I may rely upon your joining your strong recommendation to my humble and most earnest entreaty that the Government will see fit immediately to publish the letters in the cheapest form, and give them to the public as the most valuable manual which can be put into the hands of all persons in India, who are interesting themselves on the vital question of growing cotton for England, whether they be collectors, merchants, or planters. Observe, I pray you, what is passing at this moment in Cuddapah, famous for its great area of the best black cotton soil. The Collector of this fine province gave very laudably free grants for five years of this waste soil to the native farmers to grow cotton. The farmers took the land, and proceeded as usual to grow cotton upon it, in rotation with other crops. What does the Collector on seeing this judicious course? He has the farmers up, and insists upon their cropping the land with cotton during every one of the five years of the grant! The farmers naturally demur to ruin themselves as he bids them, while he has not a suspicion of the reason why they venture to demur, namely, because after the first year, their crop of cotton the second year, and every year after, would be nil.

13. Again there are probably many Englishmen who are rushing largely into cotton planting on their own account, tempted by the present high price of the article, and the prospect of its remaining high for some time. To all such blindfold experimenters, Dr. Wight's advice and warnings would prove of priceless value. They would save many perhaps from heavy loss, some possibly from absolute ruin.

14. As to myself, I made Mr. Petrie's acquaintance in 1848, immediately on his return to England, especially to learn from him personally the history and results of the Coimbatore American cotton experiment, at that time fresh in his mind, and uppermost on his tongue. I heard him give his valuable evidence equally fresh pointed and convincing before the Cotton Committee of that year, having taken a leading part in its preparation. I myself was examined by the Committee, and attended its sittings regularly. The only portion of Dr. Wight's letters absolutely new to me, are his observations on the laborious and costly processes of English agriculture, as compared with the simple and cheap practices of Indian farmers to effect the same result, the complete preparation of the soil to receive the seed to be sown.

15. There is a clergyman in Northamptonshire who has grown a more than average crop of wheat upon the same 10 acres of land for 14 successive years. This clergyman is looked upon as a farming wonder. Setting wholly aside the crops of rice grown throughout India in the same fields century after century in the same quantity and of the same quality, there are fields to be seen everywhere of such a plant as the sugar cane, grown successively and uninterruptedly in the same spot for a time to which the memory of man reacheth not. Facts like these stare in the face of every man who can use his eyes to see, and his reason to reflect; and yet ineradicable English prejudice and ignorance combined can coolly stigmatise the agriculture of a people, who unostentatiously perform this feat, son after father, as backward and barbarous.

16. The story of cotton in India is not half told: how it was systematically depressed from the earliest date that American cotton came into competition with it, about the year 1786; how for 40 or 50 years after, one-half the crop was taken in kind as revenue, the other half by the sovereign merchant at a price always much below the market price of the day, which was habitually kept down for the purpose; how the cotton farmer's plough and bullocks were taxed, the churka taxed, the bow taxed, and the loom taxed; how inland custom-houses were posted in and around every village, on passing which, cotton on its way to the coast for sale was stopped, and like every other produce taxed afresh; how it paid export duty, both in a raw state and in every shape of yarn or thread, cloth or handkerchief, in which it was possible to manufacture it; how the dyer was taxed, and the dyed cloth taxed plain in the loom—taxed a second time in the dye vats; how Indian piece goods were loaded in England with a prohibitory duty, and English piece goods were imported into

II.
Madras.

India at an *ad valorem* duty of $2\frac{1}{2}$ per cent. I shall be told that these things are things of the past. Are export duties not now levied on all Indian piece goods? Is not this year, the year 1862, the first for 64 years that we have ceased to demand from our wretched weavers the annual tax upon their looms? One of these looms takes 14 days to make a piece of cloth 16 yards long by $1\frac{1}{4}$ wide. An untaxed Manchester power loom, with which this loom has to contend, turns out daily 5,000 to 10,000 yards, nine-tenths of which are made out of American cotton. Small wonder is it that it was necessary to import from barbarous Arabia a word as barbarous, the word "Moturfa," which should hide from English eyes the nature of such an impost as an annual tax upon every Indian hand loom, upon every tool of the pauper daily artisan, upon every boat, and every net of the sea and river fisherman, upon every mud hut they live in. This impost is now for the first time a thing of the past. But does not its life-long existence more than explain things present? Are not its necessary effects a more rational, a more candid, a more humane explanation of the reason why India is not producing all the cotton for which Manchester is clamouring, than the abuse heaped upon the nations for their sloth, their ignorance, their apathy, their prejudices, and to cap the climax of vituperation, upon their barbarous and backward agriculture? Would these clamourers now exist if English wheat farmers, English country artisans, had been treated for years as have the Indian cotton growers, Indian weavers, Indian artisans? It is my firm conviction that the same treatment would long since have converted any—the finest—country in Europe into a wilderness. But the sun has continued to give forth to India its vivifying rays, the heavens to pour down upon the vast surface its tropical rains. These perennial gifts of the universal Father it has not been possible to tax: India remains the abiding place of its million people, and the wide-spread scene of their patient, persevering, uncomplaining toil.

17. It is necessary that I should close this letter. Its length has grown under my pen, for it has vividly recalled a subject to which my mind has long been directed both in India and in England, though not a subject of direct local moment to Malabar, whose immediate welfare is affected by the greater or less production of cotton only as the province is a part of the general body politic of India. But England, the year before the disruption, paid 30 millions sterling to the United States for the cotton she consumed. This year she is paying 14 millions sterling more than this sum for the good and bad cotton of all kinds, and from every quarter, which Manchester is now driven to consume. The value of the whole trade, import and export, of India with Great Britain falls short of 20 millions a year. With these figures presented to every man's reflection, it is impossible to exaggerate the importance of what good and abundant Indian American cotton might be, and ought now to be, to all India.

18. I have shown conclusively that this cotton was completely naturalised and successfully produced 22 years ago by native farmers, possessed of no greater skill and experience than is shown by the myriads of farmers who till the soil of their country; and hence proved that there is no impediment in the soil, the climate, or the want of farming knowledge in the people to the growing of the same cotton to any extent, provided all natural and all artificial impediments are swept from their path, and they can run the race of cotton growing as free from restraint as are the growers of the countries they compete with. I therefore send this letter as the best contribution I can make in answer to the question you have addressed to me, "the question of the cotton supply," and it is with all diffidence that I venture to offer it.

NOTE.

	Rs.	a.	p.
This cloth, wove by the ordinary country weaver, is intended to make four cloths, or lower dresses called poddas, such as are habitually worn throughout the interior by women of the labouring class. The average price at which it sells in the piece is - - - - -	4	12	-
Its making costs as follows in money, time, and labour (the labour being the labour of the weaver's family, men, women, and children, who, like him, can by caste do nothing else but weave, can only be given in time):—			
Going to the nearest coast town, there buying eight bundles of English yarn, No. 20, and red dye for borders, cost - - - - -	2	4	-
Steeping yarn in fresh water, then in conjee, or rice water, dyeing, rinsing, and drying it - - - - -			4 days.
Preparing the warp (by the women) - - - - -			2 "
Weaving it into cloth by two men - - - - -			8 "
Remains for the subsistence of 17 persons, 9 men, 8 women, for - 14 days	Rs. 2	8	-

Out of this sum the weaver has had till now to pay his annual loom-tax one rupee, his annual house tax one rupee, over and above his land tax upon the cultivated or planted land round his house, how little soever it may be to eke out existence. This was his "moturfā." The value of his loom may be from three to four rupees. Of his house 10 to 12 rupees.

Untaxed Manchester is calling upon heaven and earth against the enormity of the new import duties, which the bankrupt necessities of India compelled it to charge upon Manchester yarns and piece goods. If my memory is not quite at fault, there are import duties charged in England upon all the cotton goods of India, besides the monstrous export duties charged upon them in India itself. These duties levied in both countries are intended, we must conclude, to protect the Indian cotton weaver against the competition of Manchester power looms, and to stimulate the Indian grower at the same time to grow more cotton, and make Manchester independent of America.

As to Indian yarn, the native spinner no longer exists. He, or I should rightly say she, has been extinguished by Manchester yarn, which, spun out of American yarn, is flooding India in increasing quantity. Manchester has in yarn only cut India in three different ways, by preferably encouraging American cotton, by discouraging *pro tanto* Indian cotton, and by superseding Indian yarn.

II.
Madras.

ORDERED to be submitted for the information of Government. The Board regret that Mr. Brown's interesting communication, and Dr. Wight's letters to the "Gardener's Chronicle," are received too late to be placed at the disposal of Mr. Talboys Wheeler, his handbook having been already completed. The Board doubt, however, whether they would be justified in reprinting Dr. Wight's letters without that gentleman's permission.

Enclosure 2, in No. 53.

ORDER thereon, 3 July 1862, No. 1446.

(No. 38.)

1. MR. BROWN's letter, with the exception of two objectionable passages in paragraph 4 will be recorded and placed on the editor's table.

2. The newspapers will be returned through the Collector.

A. J. Arbuthnot, Acting Chief Secretary.

Enclosure 3, in No. 53.

(No. 383.)

READ, the following Letter from F. C. Brown, Esq., to J. D. Sim, Esq., Secretary to Government, Revenue Department, Fort Saint George, dated Anjarakandy, 10 August 1862:—

Sir,

1. I PERCEIVE that the Government has thought the letter I addressed to Mr. Grant, our late Collector, "on the supply of cotton," worthy of being communicated to the press. Within these few days, I have succeeded in tracing the ultimate disposal of the Bourbon cotton mentioned in the letter as having been grown here by my father. Both the quality and the sale of the cotton are detailed in a letter from the Court of Directors to the Government of Bombay, through whom six bales were sent to the Honourable Court. This letter is, therefore, the complement to mine, and as what are now specially wanted are authentic facts, proving the capacity always possessed by India of growing good cotton, it will be satisfactory to the Government to have the Court's letter. I beg leave to send a copy of it herewith. Page 359.

2. The Court state, "the six bales of cotton, the produce of the Rhandatcroa plantation, were of very excellent quality. The Bourbon sort sold for 2s. 2d., and the native at 15½ d. per lb. But we have reason to believe that, even in the present very depressed state of the cotton market, if there had been a quantity sufficient to have excited competition amongst the dealers, the selling price would have been higher." Higher than 2s. 2d. a lb. ! The date of this letter is the 1st June 1803, 59 years ago.

3. Besides its value as evidence on the one essential point of quality, you will not fail to see that the Court's letter is of the greatest historical value at the present time, as contemporary evidence of a fact of a different kind, relative to the production of cotton, which it

II. Madras.

attests and records. The letter proceeds: "Surat cotton has, for several months past, been at the low price of 9*d.* to 11*d.* per lb., and we understand that large importations of cotton are expected from the southern provinces of North America, the cultivation of indigo having for some time ceased to be profitable there."

4. It is thus conclusively established, that it was only when the Southern States were driven from the cultivation of indigo (slave) by the cheaper indigo produced by the English planters of Bengal, that those States began largely the cultivation of cotton; and that it was only in 1802-3, when the Court describe "the cotton market as in a very depressed state, and Surat cotton, for several months, as at the low price of 9*d.* to 11*d.* per lb.," that large supplies of American cotton were beginning to be expected in England.

5. From the beginning of the cotton famine in Lancashire in 1860 to the present time, the best Surat cotton has seldom reached 9*d.*, it has never touched 11*d.* a lb. At 9*d.*, it is notorious that importers are realizing large fortunes. It is, therefore, a matter of interest to inquire, how a price, almost held fabulous in 1862, and so high in 1800-1 and 1802, as to force into existence in a few years the overwhelming cotton production of America, was declared by the Court, then the sole importers, to be a "low price" for Surat.

6. The history of the price of Indian cotton, and consequently its production, will be best made intelligible by ascending the stream of recorded evidence from modern times up to the time when it began to be supplanted, and finally well nigh extinguished, by the gigantic growth of America.

7. In the year 1847, I showed from authentic testimony that, from 1785-90 to 1846, the price of Surat cotton at Bombay, the shipping port, was 80 rupees per candy of 784 lbs. This price may, therefore, be considered as the natural price of the article at that port during the previous 60 years; the price is equivalent to 2½*d.* a lb. gross.

8. In 1846, in consequence of the ruin threatening the cotton trade, the Governor in Council of Bombay assembled a committee composed of civil servants and merchants, who after going carefully and minutely into the inquiry confided to them, reported, that from every candy of Surat cotton, costing 80 rupees in Bombay, the Government had taken 48 rupees as land tax and sea duty, leaving 32 rupees, or ¾*d.* a lb. to be divided among all the parties, from the Bombay seller to the Guzerat grower.

9. In 1832, 24 years before, when the Company, trading no longer, no longer took the cotton tax in kind, Mr. F. Warden, a Member of Council, afterwards a Director, gave in evidence that the money tax levied upon every candy of Surat cotton amounted to 56 rupees, leaving to the grower 24 rupees, or 11 rupees less per candy than had been left to him by his Mahratta masters. This price was two farthings and three-quarters a lb.

10. In 1812, Mr. Rickards, late a Member of Council, represented to the Court, that from the beginning of the Company's monopoly the whole cotton produce of the district was taken, "without leaving any portion of the avowed share of the ryots at their own free disposal;" that they "are not even suffered to know what they shall get for it, till after it has been far removed from their reach, and from the country, by previous exportation to Bombay; that in 1806, in reference to the Honourable Court's Orders of 30th April, the northern servants fixed the price of the Company's cotton at 10 or 12 per cent. lower than the ryots could get for it in the neighbouring Mahratta pergunnah; that the Company's price to the ryots has consequently been always under, and, in 1809, was 30 rupees per candy, or 25 per cent. under the general market rate."

11. In 1808, the Judge of Broach, who, with "the Collector and Commercial Resident, exercise the whole civil authority of the district over a slavish, patient, and forbearing people, and who fixed the price of cotton as the agents of the buyers alone," represented, "that a price of 79½ rupees per candy (2½*d.* a lb. on the spot) would afford a good profit to the cultivator," meaning, presumably, a profit equal to what he got on his grain crop; for more than this profit it would occur to no agent to allot to him under the circumstances, and in those times, 2*d.* a lb. was, therefore, the minimum price which the Guzerat grower would have received for his cotton in a fair and open market.

12. But the official evidence I have quoted demonstrates, past cavil, that, for a period of about 60 years down to 1846-7, the grower could not have received on the spot even 1*d.* a lb., and that ¾*d.* to ½*d.* a lb. for his cotton was the utmost that was credited to him at the close of the season in the books of his village bunniah. That he continued to grow it at all is only explained, first, by the compulsory system of advances; second, by cotton, an herbaceous and foddering plant, being essential in the rotation for preparing the land for a food crop. The grower grew cotton to escape starving. In some years he may possibly have recovered in the price of his grain a portion of what was taken from him in the price of his cotton. A scarcity or a famine among his neighbours was his best harvest.

13. It is unnecessary to look further than these perennial causes to understand why East India cotton has long been the worst in every European market, nor why it has become the grower's settled trade still more to degrade the value of the article by every fraudulent adulteration. It is not from the rack-rented cottier that the Agricultural Society of England expects prize crops, nor hopes for model integrity in farming.

14. From

14. From 1785 to 1791, the Company sold their Surat cotton at 11*d.* to 1*s.* 1*d.* a lb. That the selling price continued without material alteration throughout subsequent years is shown by the Honourable Court's quoting it, in 1803, at 9*d.* to 11*d.* a lb. But if a prime cost of less than 1*d.* a lb. to the Guzerat grower yielded only a low price in London, when the cotton was sold at an advance of 900 to 1,200 per cent., we are driven to ask by what process of legitimate trade such a result could be accomplished, more especially as, between the years 1806 and 1809, the crop of cotton was all taken at a reduction of 12 to 25 per cent. upon the market price, "to save a branch of trade," as the Honourable Court observe, "to Western India."

15. On examination we find that, in the year 1810, the freight in the Company's regular ships, on every pound of Surat cotton imported into London, was 7½*d.* This had been, was, and continued to be the ordinary rate charged; to this rate, it is only necessary to add what would be the invoice cost of the cotton, cleaned, bowed, baled, screwed, and put on board in Bombay, say 4*d.* a lb., and to these two sums, making 11½*d.*, also to add, the monopoly trade and sale charges in London, which, we are sure, were in proportion to the freight, and we arrive at an explanation why Surat cotton must have left a loss when sold at less than 1*s.* a lb., and why, in order to throw the loss upon the grower, and not upon the East India proprietor, the sovereign of the country, by his servants, persistently robbed the grower of his crop. We have in the same facts an explanation why the production of American cotton so speedily overtook and overwhelmed Surat. The average freight on American cotton to Liverpool was one-eighth to three-sixteenths of a penny a lb. Allowing 5*d.* a lb. as the price to the American grower of that day, his cotton could be laid down in Liverpool at a liberal cost of 6*d.* a lb. A price of 1*s.* a lb. charged in London for Surat was, therefore, a bonus of 6*d.* a lb. to the American grower for every pound of cotton he could grow, a bonus equivalent to three times the natural price of the cotton produced by the grower in Guzerat; a price which, if this, the Company's grower, had received, the figures demonstrate that not one pound of American cotton could ever have been grown. In Bengal, as in Bombay, the bazaar, or natural price of cotton, was 2½*d.* a lb., when advances were given, 2*d.*

16. The returns of the import of Indian and American cotton into England complete the history of both growths, and finish the picture of the rapid rise of the one upon the hastening ruin of the other.

17. In 1818, Indian cotton competed successfully in quantity for the last time with American. The import of Indian was 2,47,000 bales; the import of American 2,07,000. In 1837, the Indian import had fallen to 1,47,000 bales; in 1846, 10 years after, to 94,500 bales, of which Bengal, with its sixty millions of people, furnished 196 bales in 1845. In 1837, the American import had risen to 8,45,000 bales; in 1845, eight years after, to 1,502,000 bales.

18. In 1846, thus wrote Mr. Marriott, another Member of Council, at the end of his 50 years' residence and service in Bombay, words extorted from him in England by what he had left behind in India:—"I feel certain that an examination would establish that a considerable share of this and other property (the personal ornaments of the peasantry), even to cattle and household utensils, have been for ever alienated to make good the public revenue. In addition to this lamentable evidence of poverty is another of equal force, to be seen in all parts of the country, in the numerous individuals of the above class of the community wandering about in search of the employment of hirelings, which they are glad to obtain even for the most scanty pittance. In short, almost everything forces to the conviction that we have before us a narrowing progress to utter pauperism." At this time and up to 1847, a sea duty was maintained on cotton taken from port to port in India, even in the same Presidency.

19. In 1841, thus wrote a Carolina planter, Mr. Seabrook:—"Cotton has greatly accelerated the growth and flourishing condition of the plantation States, aided to build up the prosperity of their political associates (the Northern States), and added vastly to the wealth and greatness of the Union. Of the total exports from the United States that year, amounting to 106½ millions of dollars, cotton furnished 54½ millions of dollars, or more than half. The production has increased more than 5,676 in half a century. England now pays to America 35 millions of dollars per annum for a single product of our fields. To keep her in this position is a task of easy accomplishment."

20. The task proved of easier accomplishment year by year until the year 1860. In 1859-60 the production of American cotton amounted to 4,825,924 bales, of which England took about 3,000,000 bales, forming seven-ninths of her whole consumption, and for which she paid to the slave States not less than 30,000,000 sterling, exclusive of what she paid to them for slave tobacco. In the same year the American cotton manufacturers retained 810,000 bales for their own consumption, a quantity approaching to that which the English manufacturers worked up 12 years before. Not only, therefore, had the American grower inconceivably distanced the Indian in quantity and quality, but the American manufacturer, with home cotton at his door, and with population and capital doubling every 15 years, was yearly narrowing the calculation of the time when he should first rival, next undersell, and lastly, supplant the English manufacturer, certainly abroad, and ultimately in his home market.

II. Madras.

21. Without one link wanting in the chain of evidence showing how cotton was thus systematically up-rooted from India, and sown broadcast in the United States, it is unworthy of upright men to shut their eyes to the truth, and not to acknowledge that the system was the sole act of Englishmen armed with supreme power; that it was solely planned by their heads and executed with their hands, regardless of all consequences, all considerations, but immediate gain. It was Englishmen alone who, trampling in India upon every right of industry, fashioned in America, fed, nourished, cherished the slave cotton Frankenstein which grasps Lancashire by the throat, and abides its time to strangle England herself. To upbraid the natives of India with the remotest share in the monstrous creation is as unjust as it is untrue: to ascribe it to the ordination of Providence is nothing short of blasphemy. There is the Government Proclamation of the 20th June 1838, proving the settled purpose to extirpate Indian cotton out of the land (*see B*).

22. The disclosures made by the Bombay Cotton Committee of 1846, the report and evidence of the Home Cotton Committee of 1848, and the revelations published by official men of unquestioned character and high standing, extorted the general revision and signal reduction of the land tax in Bombay, which has been going on from 1850 to the present time.

23. To this tardy and reluctant concession is it solely owing that Lancashire is not now irretrievably ruined, and the cotton interest of England hopelessly undone. It is the Indian grower who, restored to life and hope by the modicum of relief given to his cotton land, supplied Lancashire with 213,000 bales in 1852, with 618,000 bales in 1860, with 1,280,000 bales (of 300 lbs.) in 1861, and in 1862 is pouring in every bale which the sudden demand and the brief time have allowed him to raise. More he cannot do in a year. A wheat famine would not suffice to double the English wheat crop in a twelvemonth. Lancashire does not yet know that the earth does not spin cotton like a mill; that the same earth only produces a crop every third or fourth year, and then only after laborious preparation and sedulous cultivation.

24. But that for which Lancashire is starving and crying aloud is for 3,000,000 of bales: it is for quantity, no matter now what the quality, that her noble minded operatives are imploring. If the cotton were only grown, money would drag it to the coast ports over roads, however execrable, and ships in abundance land it in England, after a voyage however long. But not rupees, not sovereigns, are cotton seed. Cotton seed must be sown by the millions of growers in India, each working his patch of land, and each helping to make up with his modicum of clean cotton the millions of bales that are wanted. No Government prizes, no Government papers, which the growers never hear of, no fraction of the high price of cotton which is all the middleman will ever give them, if he has yet given them that fraction (*see C*), no strange scores of English agents, whose advances they may take, but whose friendly purpose they will disbelieve and tacitly scout, will serve really and permanently to move them, or to lull their suspicious fears. With the past cotton history sunk ineffaceably deep in his memory, the grower is so accustomed to see and feel the hand of Government pervading his crops and concerns; here forbidding him to grow a poppy crop, or produce an ounce of opium; there prohibiting his fermenting the toddy of his trees, and making wine of it; everywhere punishing him if he touches the sun-made salt at his door; that until he is convinced this heavy hand is taken off his cotton land, he will set down the present movement as a mere lure to tempt him to increase his growth, in order hereafter to tax it the heavier.

25. Nothing will shake this fixed distrust but a "Circular" proclamation put forth in the most authoritative manner, and personally circulated by the Collectors of the provinces, suspending for five years the tax on all land that, in the yearly rotation of crops, may be cultivated with cotton, leaving the tax on all other land untouched.

26. No measure but this will directly reach the grower, and secure his receiving the price which he ought to get for his cotton, for no other will enable him to hold his cotton, and save him from being obliged to take the bunniah's price for it in order to pay his land tax. Let him once feel that the whole and the highest price is his own, a feeling he no more knows than that of a sixth sense, the stimulus will rouse him to grow not only the cotton immediately required to stay the urgent wants of England, but animate him to make the sustained effort needed in order to re-sow, afresh and permanently, the vast fields of his country with the cotton rooted out of them by 60 years' oppression.

27. Without the same security as this for his outlay, and in the face of more than suspicion, that Lancashire would rush again, if it could, to the United States for its cotton, no prudent Englishmen ought to be tempted to sink, in the remote interior on permanent buildings and indispensable machinery, the considerable capital required for founding a cotton agency on a remunerative scale. The repayment of such a capital must necessarily be spread over several years, and can only begin after a prosperous business has been established. But such a business can be hoped for only on a reasonable certainty that the growers will bring yearly to market a quantity of cotton adequate to employ remuneratively the buildings and machinery erected, and at a price that will find a ready sale in the other manufacturing markets of the world, if the market of England should again be saturated with the cotton of the United States. The land and the labour necessary for this great production, the Indian grower has, the indispensable capital he has not, nor can he get. Put it into his power to save this capital, and fearlessly to invest it in his occupation, and he will demonstrate, without

out preaching or boasting, that the quality of cotton in India is as much a question of a sufficiency of farming capital, as the quality of the wheat crop is in England, apart from the operation of the seasons.

28. What are the interests at stake in the adoption or rejection of the simple and direct remedy I venture to recommend, to meet and finally to end the present difficulty?

29. On the 19th of June, Mr. Bazley, the Member for Manchester, told the House of Commons, "If the cotton industry of this country should be altogether suppressed, the loss of revenue would exceed 2,000,000 *l.* sterling, while a continuation of the present distress for 12 months would result in an immediate loss to the Exchequer of 10,000,000 *l.*" Mr. J. B. Smith, the Member for Stockport, told the House that "one hundred and sixty millions of people would be required to manufacture by hand labour the cotton goods which 1½ millions, aided by machinery, now produced." If India were joined on to the Land's End, would it be possible to tax her cotton land one farthing in the face of revenue and moral responsibilities such as these? That India is 14,000 miles away from the Land's End, three times as far as the Cotton States, and her cotton subject to three times the voyage, the delay, the freight, and charges of the American, are reasons unanswerable why her cotton should be tax-free, even if she could boast of having the same roads and rivers and harbours, the same unexampled facilities for internal transit and shipment to sea, which the States possess. But when notoriously she has not one of these advantages, when every pound of her cotton pays for carriage a full freight to England before it is shipped from a coast port, to tax her cotton direct is, in view of the interests of England, material and moral, a suicidal act.

30. For 50 years and more were the Indian cultivator and his land yearly visited, surveyed, classified, inspected, "Jummabundied," himself harried "sumjaished" by lean hungered revenue officials, sent forth periodically "more Munro," to see that he ploughed his fields, sowed them with seed, weeded, hoed, watered, and watched his growing crop, reaped it when he got leave, and finally did not make away with it before his pittance of revenue had been got, by fair means if possible, but at all events got, whether the seed sown had been returned or not. This paternal driving, very much like the goading of one of his own starved bullocks, ended in this figured result, that eight years out of every ten the general revenue of the country was deficient more or less; the larger the territory, the greater the deficiency. I humbly and respectfully ask that a trial be made, for no more than five years, of leaving the cotton cultivator alone. A loss of revenue there cannot be from this boon, because every pound of cotton he will raise will come back from England, invested in some commodity of twice or thrice the value of the price he will receive for the cotton on the spot, and furnish on import in that shape a large fund, which cannot escape contributing in customs duty to the revenue. Before the disruption of the United States, they received annually from England 30,000,000 *l.* sterling for their cotton, and charged by the Morrill Tariff 15, 40, and 75 per cent. upon English imports.

31. But should cotton, land-tax free, leave, most improbably, a temporary loss of revenue, the immediate and certain remedy is in the hands of the Government. The Government have only to restore to the 50 millions of cultivators in Madras and Bombay, the right, of which they have been stripped for more than 60 years—the right of producing opium on their lands on the same terms as the cultivators of the drug in Bengal. The twenty millions of foreign cultivators in Malwa are producing 40,000 chests a year, and paying 600 rupees a chest for the license of taking their opium through Bombay. They are unmolested and unquestioned, because they showed unmistakeably, in 1817, that they would not tolerate any Bengal prohibition to grow opium on their lands (*see D*). Patient and silent Madras and Bombay submitted. It is on their fields alone that the growth of one of the most valuable crops in tropical agriculture has been prohibited, and an unwholesome, and eventually another fatal, monopoly has been pampered with the people's money, in Bengal, based on reasons that will not bear a moment's honest examination. The people of Madras and Bombay are the Queen's subjects equally with the people of Bengal. If their land will not grow the poppy, the prohibition is needless; if their land will grow it, the injustice strips them of their common birthright as the Queen's subjects, that of devoting their land and labour to the growth of any production which is neither forbidden nor injurious to their fellow-subjects. The care of deriving an opium revenue may be safely trusted to the Governors of Madras and Bombay, as it is trusted to the Governor of Bengal.

32. To address this argument to persons would be vain, who at the present day continue to maintain, that from monopolies only can an adequate revenue be got from one hundred and fifty millions of an ancient, a civilised, and industrious people, inhabiting a fertile territory 1,200,000 square miles in extent. Such persons must regard a native to be a different creation from themselves. I can look for faith in what I recommend only among those whose reason, whose religion, and whose consciences tell them, that the Hindoo is the work of the same Almighty hand who made the Englishman, and who has inspired both alike with the desire of bettering their material condition; a desire which the history of civilised man has invariably shown, that the more it is allowed free scope by rulers and Governments, the more does it distinguish progressive man, and elevate him above the stationary brute, as interfering forcibly with its development degrades him the more surely to the brute level.

II. Madras.

33. There is a remaining subject which I must be permitted not to pass over, because, without an impartial consideration of it, the force and applicability of the measure I recommend cannot be understood. It is a fact beyond dispute that it was the English indigo of Bengal which, 60 years ago and under great impediments, extinguished the slave indigo of the United States. Bearing this fact in mind, and surveying the globe in its present state; witnessing in its various and distant regions the Englishman transforming, in a score of years and in climates widely different from his own, the wildest wastes into great and prosperous communities; no unprejudiced man can doubt, when he also beholds English enterprise supplying the world with Indian sugar, and with Mauritius sugar grown by natives under Englishmen, and sees it beginning to supply the world with Indian tea and Indian coffee, for the coffee of Ceylon is grown by them with Indian labourers; no man can doubt, that if English enterprise had been permitted to have free access to the cotton marts of India 80 years ago, when the price of Indian cotton was 2½ d. a lb. at the shipping port, and when cotton was not yet an export from the United States, that not a pound of American cotton would ever have seen the light, and that the vast wealth which has created America would in its natural course have been spread by Englishmen, calling into action the industry and intelligence of the natives, over the face of India. The monopoly of Indian cotton in the first place, and the long, rigid, and penal prescription of Englishmen from India in the second, were demonstrably, therefore, the causes if not of the rise, certainly of the continuance, of American slavery in 1780, when poverty and want of employment were driving the masters to emancipate their slaves; as they were the causes of its subsequent rapid growth, until in 1860, four millions of slaves in the Union were employed in growing cotton, chiefly for England.

34. The labour of their slaves being engrossed by this vital crop, the United States turned to Cuba for the supply of their annually increasing want of sugar, and to Brazil for all their coffee, both countries being near neighbours. With the English money received for their slave cotton, did they pay for this slave sugar and this slave coffee. With this money Cuban and Brazilian slavers sped to Africa, and packed their slaveholds with living human cargoes, bought at 20 dollars, to be sold at 500 dollars a head. With English money was the African slave trade in this manner unceasingly nourished and increasingly fed. Not alone on the Spaniard, the Portuguese, or the Brazilian, ought our indignation to be heaped. The Indian cotton monopoly is as much the primary door of the slave trade, as it is of American slavery. It is before English eyes that ought to be present, the man hunts, sweeping at this hour over the length and breadth of Central Africa; the pestilence-breathing slave barracoons, which stud the shores, the creeks, the rivers, on both coasts of that continent; the low black slaver, with its cargo of manacles and slave deck 18 inches high; the middle passage, marked by trails of black corpses, and following shoals of ravenous sharks; the British cruiser's chase, directed by a line of negro heads thrown overboard to give wings to the slaver's flight; the Cuban slave-pen, whence a strong man is daily driven forth to be worked out in seven years. These are the scenes, which we know are now going on to compass the stealing of 50,000 men and women annually from their African homes, and running them to the Cuban slave marts, in order that the American demand for Havannah sugar may be met. Lastly, there is the internecine slavery war now raging between the States.

35. Whosoever traces these things to their real origin, whosoever pauses over them, and reflects that, except the last, they have been going on for countless years, and have defied every check, because of the enormous gains they continue to bring to their perpetrators, will grieve profoundly at the sufferings of Lancashire: he will lament to hear of millions of his innocent countrymen expiating the greed and the guilt of the sordid few in the misery they are enduring; but he cannot be surprised. His reason and his conscience must see in this result, the solemn warning which has been proclaimed to all the dwellers upon earth—that retribution shall, in the fulness of time, overtake that people, even the most powerful on earth, who, in the lust of conquest, and the pride of irresistible power, lay distant nations at their feet, and who spurn in their treatment of the prostrate millions that command, the first and most impressive delivered by the Almighty, "To do justice, and to love mercy."

P. S.—The measure I recommend is no new thought: 25 years ago I urged it in London and Manchester, when seeking to show that a cotton dearth would occur either from a war with America, or a slave rebellion. An American civil war has proved the cause. That cause, and every previous cotton event, have confirmed the steadfast conviction, that there is no issue to the cotton difficulties of England, industrial, social and fiscal, which is safe, sure, and permanent, other than making Indian cotton land tax-free for a given time; and no other way out of her political complications with the United States, which are ever recurring and always are smoothed down, than making her chief industry, at any cost, independent, or *quasi*-independent, of American supply. I myself do not grow cotton, and am in no way concerned in the trade.

From *Thomas Warden*, Principal Collector, to *Murdock Brown*, Esq.

II.
Madras.

Sir,

Tellicherry, 16 February 1804.

THE enclosed copy of a letter from the Secretary to the Board of Revenue, with copies of its accompaniments, conveying the opinion of the Honourable the Court of Directors upon the quality of the cotton produced on your plantation at Rhandaterra, I have the pleasure to forward for your information, and am,

Sir, &c. &c.

Thomas Warden,
Principal Collector.

EXTRACT from the Honourable Company's Commands in their Commercial Department, dated 1 June 1803.

"Malabar Cotton."

PARA. 9. "The six bales of cotton, the produce of the Rhandaterra plantation, were of very excellent quality. The Bourbon sort sold for 2s. 2d., and the native at 15½d. per lb.; but we have reason to believe that, even in the present very depressed state of the cotton market, if there had been a quantity sufficient to have excited competition amongst the dealers, the selling price would have been higher. The native sort* was not so much inferior to the other quality as the difference in price would seem to point out, but was not so well cleared from seeds and extraneous matter. Surat cotton has, for several months past, been at the low price of 9d. per lb. to 11d. per lb.; and we understand that large importations of cotton are expected from the Southern Provinces of North America, the cultivation of indigo having some time ceased to be profitable there."

* The beautiful indigenous hill cotton of Malabar.

"Notification."

"Bombay Government Gazette," 20 June 1838.

"THE Honourable the Court of Directors, having been pleased to disapprove of the notifications of the 24th February and 1st August 1835, and of the 1st and 17th November 1836, issued under the authority of Government by the Revenue Commissioner, granting certain exemptions from assessment to (waste) land cultivated with cotton and the Mauritius sugarcane, and to direct that such notifications be immediately recalled; the Right Honourable the Governor is pleased to cancel them from this date."

"Pleased to disapprove!" Two years after this proclamation to India, "of pleasure," the two American planters arrived in Bombay, 1840, and the cheated and beggared cotton growers, who had spent their all in growing cotton and sugar on their waste grants, and who only obtained grants on the condition that they continued to pay their annual assessment on their cultivated land, were invited and expected to come and learn how to grow American cotton for England.

In 1846, the Revenue Commissioner, Mr. Williamson, wrote as follows:—

"The extent of waste land capable of producing cotton, compared with that which produces it at present, is very great in all the provinces enumerated (seven); the impression of a stranger travelling through Berar or Candeish would be, that the country was very imperfectly cultivated; he would constantly travel through miles of country, fully equal, in natural resources (to the cultivated), but destitute of population. He would also find that a very slight encouragement, so as sufficient to attract cultivators, and that they greedily accepted terms which would be deemed hard by the most enterprising farmers in England." The redeemable waste lands of India are computed to be from two to three-sevenths of its surface.

Mark we now what Englishmen are doing, when unobstructed, in covering their wastes with boundless wealth: "As regards the Llama (imported from Peru), such prosperous results have been already achieved (in Australia), that some of the colonial papers are predicting the time, about half a century hence, when the vast grazing grounds of the interior shall be covered by millions of the animals, and the trade in Llama wool exceed the trade in gold."—"Chambers' Journal," May 1862, p. 352.

The "Bombay Gazette," 30 July 1862.

"The cotton that was selling in Bombay a few days ago for 450 rupees a candy, did not cost the first buyers of it more than about 80 rupees a candy; that is, the ryots did not realise more than that for it. They sold it to the village dealer at about 80 rupees a candy; the village dealer sold it to the town dealer at a small advance; the town dealer sold it to the bunder dealer (so called) at a small advance; the bunder dealer sold it to the Bombay dealer

II. Madras.

dealer at a small advance; the Bombay dealer sold it to the merchant at the fabulous price above-mentioned. With respect to one division of the country, from which a very large portion of our cotton supply comes, we know that what we have just stated, in regard to the number of hands through which the cotton passes, is perfectly true. The ryot has made nothing out of the unprecedented rise in price in the Bombay and Liverpool markets. He is profoundly ignorant of the state of these markets; designedly kept in ignorance of the great demand for the produce of his fields. It stands to reason then, that if European agents were in direct communication with the ryots, it would be vastly better for the ryots, and for the merchants; indeed, for the whole cotton interest."

THE Calcutta prohibition to grow opium in Malwa, was sent to Sir J. Malcolm almost the first thing at the end of the Mahratta War of 1817. Sir John made answer direct to the Marquis of Hastings, that his Lordship must at once prepare for a second Mahratta war, bloodier and fiercer than the first. Before this certainty, the prohibition dropped; then followed the "pass system," by which the Bombay people continue to have the yearly gratification of seeing thousands of chests of Malwa opium carried through their lands, on which they are prohibited from producing an ounce. In 1836 or 37, the Madras Chamber of Commerce made a tardy attempt, under Lord Auckland's Government, to get justice for their Presidency in the matter of opium growing. The Chamber was silenced by Calcutta reasons of State, which really amounted to this, that opium agencies were too valuable appointments to be risked by being shared with Madras or Bombay. In 1861, Major Sarel, and Captain Blakiston, two of the explorers who ascended the Yangtse Kiang as far as they were allowed to go, or between 2,000 and 3,000 miles, have reported that they found "miles of poppy fields, extending along both banks of the great river." These were their words; they are proof demonstrative, that opium is being largely grown throughout Central China.

The Chinese prefer Indian opium to every other, even to their home-grown. India might therefore have a natural monopoly of the drug throughout China, and might be hence sure of drawing from it, permanently, a much larger revenue than can be calculated on from the unnatural Bengal monopoly, if she were suffered to produce it in quantity commensurate to the demand of 400,000,000 of consumers who, however wrongfully, prefer Indian opium to English gin, and who have now legalised its import. But the Bengal monopoly is palpably forcing the poppy out of India into China, just as cotton culture was driven out of India into the United States; and the people of India at large, first injured and pauperised by it, will be compelled to make up, by increased taxation, the loss of revenue in which it is certain to end.

Strange, that a nation should go 15,000 miles away the other side of the globe, possess itself of a great and peopled country, declare that it looks to the land of that country as its chief source of revenue, and then prohibit that same land from growing the most valuable crop it can produce; and do this under the name of "security" to the revenue! Let there be no revenue, and the security would be complete. And this nation regards itself eminently as a Christian nation!

Enclosure 4, in No 53.

(No. 384).

ORDER thereon, 29 October 1862 (No. 2312).

1. IN the foregoing letter, Mr. Brown, of Malabar, continues his former paper, recorded in the proceedings of the 3d of July last, No. 1446, on the cotton history of India. He attributes the ruin of the trade to the suicidal policy of Government in years long gone by, and he proposes, as the only mode of reviving it, the suspension for five years of the tax on all land that, in the yearly rotation of crops, may be cultivated with cotton, leaving the tax on all other land untouched.

* Ex. Mins. Cons.
17th July 1838,
No. 1006, and 13th
September 1862.
No. 1971.

2. This remedy has often been suggested, but as often negatived, and the Home Government have more than once* expressly prohibited its adoption. Such a mode of encouragement is not only opposed to sound policy, but it renders every experiment unsatisfactory and inconclusive. It is objectionable in principle to force the course of trade and industry into new channels by such unnatural stimulants, and it is essential for any practical purpose that every experiment should be made subject to all ordinary charges. It might, perhaps, be found that cotton could be profitably grown on land not burdened with assessment, whilst, under ordinary circumstances, the speculation would only entail a loss on the cultivator.

3. Mr. Brown, himself, shows conclusively that it is the want of a remunerative price alone that prevents the extension of the cultivation of cotton, and his plan, therefore, resolves itself into a proposal to make the price remunerative by deducting that large portion of the outlay which constitutes the rent of the land. Such an interference on the part of Government would be mischievous in the highest degree.

4. As to opium, it is not the intention of Government to enter into any discussion of the question of the Bengal monopoly. There is no express prohibition against the cultivation of

of the poppy in this presidency, but a very heavy duty, which is in effect prohibitory, is levied on the export of the drug. The Government have, on several occasions, taken action in the matter with a view to secure some of the advantages of the trade to Madras, but without effect. It was considered that to extend the production of opium over the continent of India would very materially injure the revenue realized in Bengal under the monopoly, and the Supreme Government would not consent to risk so large an item of their income.* Under present circumstances the Governor in Council could not anticipate a more favourable verdict.

II.
Madras.

* Ex. Mins. Cons.
18th July 1836,
No. 903; 30th
March 1837, No. 407.

P. P. Hutchins,
Acting Deputy Secretary to Government.

Enclosure 5, in No. 53.

(No. 216.)

READ the following Letter from *F. C. Brown, Esq.*, to *J. D. Sim, Esq.*, Secretary to Government, Revenue Department, dated Tellicherry, 21 October 1862:—

Sir,

MAY I be permitted to substantiate by the latest independent American evidence the averments in my last letter on Indian cotton and American slavery? The evidence is contained in a letter on the same subject in the "London Evening Mail" (the "Times") of the 29th August, and is as follows:—"In frequent intercourse both by letter and conversation with many sincere abolitionists of America, I have always been urged to persuade the people of England to seek their cotton in other lands. 'Be assured,' said they, 'that if cotton goes down to a low figure, the value of the slave to his master will go down in the same proportion.' The (American) gentleman, who had most deeply studied the question, informed me that, about the beginning of this century, the value of slave property had fallen so low, and the slaves become so burdensome, that the large majority of slave owners in the Southern States had actually agreed to a general emancipation. Just at the same time the sudden start in the cotton manufactures of England created a new value for the cotton of America. The value of the slaves rose with it. Emancipation was sent to the winds, and from that day to this, as England has increased her demands for cotton, she has added dollar upon dollar to the extension of the infernal traffic in human flesh, and to the profits of 'the domestic institution.'

"Quis talia fando temperet a lachrymis!"

Enclosure 6, in No. 53.

(No. 217.)

ORDER thereon, 19 November 1862, No. 2437.

Ordered to be recorded and placed on the editor's table.

C. G. Master,
Deputy Secretary to Government.

Enclosure 7, in No. 53.

(No. 338.)

READ the following Proceedings of the Board of Revenue, dated 9 July 1862, No. 4413:—

Read the following Letter from *A. Wedderburn, Esq.*, Collector of Cuddapah, to *W. Hudleston, Esq.*, Secretary to the Board of Revenue, Madras, dated Madnapalli, 26 June 1862, No. 94.

Sir,

1. THERE is a communication from a gentleman in Malabar, forwarded by the late Collector of that province, and printed in the Board's correspondence for April late, page 208, paragraph 12, in which it is stated that "the Collector of this fine province (Cuddapah) very laudably gave free grants of waste land for growing cotton; the farmers proceeded to grow cotton; what does the Collector do on seeing this judicious course. He has the farmers up, and insists on their cropping the land with cotton during every one of the five years of the grant. The farmers naturally demur to ruin themselves, as he bids them, whilst he has not a suspicion of the reason why they venture to demur, namely, because

II.
Madras.

because that after the first year, their crop of cotton, the second year, and every year after, would be nil."

2. Now, as the above statement is the exact reverse of the truth from beginning to end, and as from its being published in a collection of Government papers, it may attain currency and belief, I beg to contradict it in the most unequivocal manner; (1.) I never very laudably gave ryots rent-free lands; (2.) The ryots never proceeded to grow cotton; (3.) I never called them up or directed them to crop their land for five years with cotton; (4.) The farmers never demurred to ruin themselves at my bidding; (5.) I was perfectly aware that cotton could not be cultivated two years consecutively on the same land.

3. What did take place was as follows:—I had the Government Minute translated and forwarded to the ryots of the cotton taluqs. The meaning which was universally (but, it seems, wrongly) placed on the Minute was, that the land, to be given rent free, was to be devoted to cotton for five years. I pointed out this construction to the Board, with a view to the modification of the conditions, and showed that in America even, as well as in this country, a rotation of crops was found requisite. I respectfully protest against the misrepresentations, I hope unintentional, in the paragraph of the letter, to which I have drawn the Board's attention, and request the Board to be so good as to place my public contradiction of it on record.

4. Whether I have taken a special interest in the cultivation of cotton, which after all is only grown in two and a half taluqs of the district; drawn the attention of the cultivators by public circulars to the advantages and requisites of the home market; published extracts from recognized authorities regarding improvements; procured foreign seed for the ryots; worked gins with my own hands, and explained their mechanism to the people; solicited and obtained local prizes; taken every step which I could conceive to encourage the trade, and recommended roads to be made and bridges to be built for the cotton traffic, are matters to which I would not otherwise have alluded; but it is unfair that I should be misrepresented in a letter published in the public records, which, owing to its public interest and ability, may yet obtain a world-wide currency, as having placed a stumbling-block in the way of cotton cultivation.

1. ORDERED to be submitted for the information of Government, with reference to the Board's proceedings, dated 9 April 1862, No. 2361.

2. Mr. Brown's misstatements of the Collector's proceedings was doubtless the result of imperfect information.

W. Hudleston,
Secretary.

Enclosure 8, in No. 53.

(No. 339.)

ORDER thereon, 24 July 1862, No. 1594.

ORDERED, that these proceedings be recorded and placed on the editor's table.

A. J. Arbuthnot,
Acting Chief Secretary.

Enclosure 9, in No. 53.

(No. 379.)

READ the following Proceedings of the Board of Revenue, dated 10 September 1862, No. 6033:—

Read the following Letter from G. A. Ballard, Esq., Collector of Malabar, to W. Hudleston, Esq., Secretary to the Board of Revenue, Madras, dated Calicut, 27 August 1862, No. 176.

Sir,

At the request of Mr. Brown, I have the honour to submit copy of a letter addressed by that gentleman to Mr. Wedderburn, with reference to the latter's letter to the Board of the 26th June last.

(Enclosure No. 1.)

From F. C. Brown, Esq., to A. Wedderburn, Esq., Collector of Cuddapah, dated Anjavakaudy, 24 August 1862.

Sir,

1. I HAVE just received, through the Collector of the province, the proceedings of the Board of Revenue of the 9th July, giving publicity to your letter to the Board of the 26th June.

2. I regret

2. I regret deeply to learn from your letter that I have been instrumental, however unintentionally, in repeating a statement which entirely misrepresents the part you have been sedulously taking in promoting the growth of cotton in Cuddapah. Nothing could be further from my intention, and I request you will forgive my want of caution in receiving as authentic, a report so entirely destitute of foundation as the one you have exposed to the Board.

Ordered to be submitted for the information of Government.

II.
Madras.

Enclosure 10, in No. 53.

(No. 380.)

ORDER thereon, 19 September 1862, No. 2038.

ORDERED, that these proceedings be recorded and placed on the editor's table, with reference to the proceedings of Government, dated 24 July 1862, No. 1594.

T. Pycroft,
Chief Secretary.

— No. 54. —

REVENUE LETTER from Madras, dated 10 January, No. 3 of 1863.

WITH reference to your Despatches, dated 2d May and 14th August 1862, Nos. 7 and 32, we forward the accompanying proceedings* of the Board of Revenue and their enclosure, from which you will learn that the Peruvian cotton seed has in general sprung up successfully in the Cuddapah district.

* Dated 17th Dec.
1862.
Proceedings of
Government 10th
January 1863,
No. 60.

Enclosure 1, in No. 54.

PROCEEDINGS of the Madras Government.

Revenue Department.

READ the following Proceedings of the Board of Revenue, dated 17 December 1862 :—

(No. 113.)

Read the following Letter from A. Wedderburn, Esq. Collector of Cuddapah, to W. Hudleston, Esq., Secretary to the Board of Revenue, Fort St. George, dated on Circuit Siddhavatam, 11 December 1862, No. 160.

Sir,

WITH reference to Circular Board of Revenue, dated 11th October 1862, No. 6818, I have the honour to state that the 1½ lbs. of Peruvian cotton seed was widely distributed to many persons, European and native, and that up to this time it appears generally to have sprung up successfully. A further report will be made when the plants come into bearing.

ORDERED to be submitted for the information of Government.

Enclosure 2, in No. 54.

(No. 114.)

ORDER thereon, 10 January 1863, No. 60.

1. ORDERED to be laid on the editor's table.

2. Ordered also to be communicated to the Secretary of State with reference to his Despatches, dated 20th May and 14th August 1862, Nos. 7 and 32.

To the Board of Revenue. C. G. Master,
Deputy Secretary to Government.

II.
Madras.

— No. 55. —

MADRAS REVENUE LETTER, dated London, 16 March 1863 (No. 8).

WITH reference to former Despatches on the same subject, I now forward 20 copies of some notes on the cultivation of cotton in Peru, which have been received from a gentleman who is engaged in that cultivation in the Piura Valley; together with a memorandum on the species to which the cotton seeds belong, which have been forwarded to you from Peru.

2. I am glad to see by your letter, dated 10th January (No. 3) 1863, that the Peruvian cotton seed which has been distributed in the Cuddapah district, have, in general, sprung up successfully.

I have, &c.

C. Wood.

Enclosure 1, in No. 55.

INFORMATION respecting the Cultivation of Cotton in Peru.

(From Mr. Mardon, who is engaged in the Cultivation of Cotton in the Piura Valley.)

IN Piura, the cotton seeds are sown at a distance, at least, of six yards from each other, and each plant becomes a tree, continuing to yield fruit for 10 years and longer (it being understood that they must be supplied with water at frequent intervals); but, after six years or so, I am informed that the quality of the fibre degenerates, so that it is inexpedient to allow the plants to remain in the ground longer than six years. The plants flower and yield cotton twice in the year, but only one of the two crops is good; so that, if there is a fair crop in December, you must not expect to gather anything to speak of in June.

As to the quantity of clean cotton per plant, I have had many very conflicting accounts, but I have come to the conclusion that one ought not to expect more than 2 lbs. per plant, one with another, during the year. As to the irrigation, my experience goes to show that the plant requires it at very frequent intervals, at all events for 12 months after sowing. We water ours every week abundantly, having found it to be absolutely necessary.* The plant does not come into its full bearing until it is three years of age, when it is a bushy tree.

Our undertaking consists of raising water by pumps worked by steam, and we have established two sets of pumps, at a distance of two miles one from the other. They raise water from the river 18 feet into an open watercourse, which conveys it two miles, to be again raised to two different elevations, one 25 feet and the other 35 feet, thence to be distributed over the plantation.

Arequipa, 20 January 1863.

Enclosure 2, in No. 55.

MEMORANDUM on the Species to which the Cotton Seeds from Peru belong.

WITH regard to the species of the cotton seeds which have been sent from Peru to India, it must be understood that neither of the kinds belong to the *Gossypium Peruvianum* or *acuminatum*, which is the Brazilian (Pernambuco) kind. *Peruvianum* is a misnomer, although it is vulgarly called "Peruvian cotton."

The indigenous cottons of the Peruvian coast valleys belong to two species.

That from the valley of Piura, with smooth black seeds, having no adhering pubescence, is a variety of *G. Barbadosense*; and that from the Casma valley, with smaller seeds covered with a greenish coloured fur, is a variety of *G. arboreum*.

C. R. Markham.

— No. 56. —

REVENUE DESPATCH to Madras, 9 February 1863, No. 5.

1. WITH reference to my Despatch, dated 25th November (No. 48.) 1862, I have to inform you that a further instalment of cotton seeds (weighing 23 lbs.) received from the Peruvian Valley of Casma, was transmitted to the Chief Secretary

* The soil is very sandy.

tary of your Government by the mail which left Southampton on the 4th instant.

2. Casma is about 300 miles south-east of Piura, the locality whence the former supplies of seeds were received, and the seeds are much smaller, being apparently of a different variety of the plant. Much very fine cotton is grown in the valley of Casma, where the soil is sandy, the climate hot, and the cultivation entirely dependent on the scanty supplies of water from a mountain torrent. In the experimental cultivation of Peruvian cotton, the Piura and Casma varieties should be kept separate.

C. Wood.

II.
Madras.

— No. 57. —

(No. 157.)

LETTER from *J. Silver*, Esq., Collector of Tinnevely, to *A. J. Arbuthnot*, Esq., Chief Secretary to Government, Fort St. George; dated Tinnevely, 27 November 1862, No. 505.

1. WITH reference to the Proceedings of Government, dated the 4th October last, No. 2136, calling for a report upon the state and prospects of the cotton cultivation for the current season, and as to whether the cultivation this year is greater than that of the preceding year, I have the honour to state that, immediately on the receipt of the above proceedings, I called for the necessary returns from the talooks, but I have not yet received the statements for some of the Zamindari lands. However, as Government have twice directed, in their memoranda of the 5th and 21st instant, to expedite the despatch of my report, I beg to state, with reference to the returns I have before me, but which are not yet complete, that the cultivation raised up to the end of October in this year exceeds that raised during the corresponding period of last year by about 40,000 acres. There was favourable rain at the commencement of the season, and the standing plants are thriving well.

2. It will be observed that the above increase is only up to October, and there remain two months in which the cultivation can be carried on.

3. Besides sending repeated orders to the tahsildars to explain to the ryots the great demand for cotton, the high prices obtaining in the market, and the advantage they will derive by extending the cultivation, I have myself explained all this to the ryots in person during my last Jahmabbundy tour, and, as the season is good, I anticipate that the area that will be brought under cotton cultivation this year will greatly exceed that of last year.

— No. 58. —

(No. 327.)

LETTER from *J. Silver*, Esq., Collector of Tinnevely, to *J. D. Sim*, Esq., Secretary to Government, Revenue Department, Fort St. George; dated Tinnevely, 17 December 1862, No. 538.

SINCE reporting to Government on the state and prospects of the cotton cultivation on the 27th ultimo, I have the honour to inform you that the heavy rains which have since fallen have caused a good deal of injury to the crops. On the night of the 30th November there was a perfect deluge of rain all over the district; many tanks breached, and portions of roads were swept away. The town of Tinnevely was in one part completely flooded, and great damage was done in the town of Tuticorin. This deluge fairly washed the late cotton sowings out of the ground in some localities, and did a good deal of injury to the standing plants. The ryots, however, are preparing again to sow those lands that have been most damaged.

II.
Madras.

— No. 59 —

(No. 353.)

LETTER from *V. H. Levinge*, Esq., Collector of Madura, to *A. J. Arbuthnot*, Esq., Chief Secretary to Government, Fort St. George; dated Madura, 16 December 1862, No. 696.

1. As desired in the Government Proceedings of the 4th October last, No. 2136, I have the honour to report that the cultivation of cotton in the Government, Inám, and Zemindary villages, up to November last, amounts to 39,568 acres, assessed at 71,277 rupees, exceeding that of the same period in the last Fasli by 8,552 acres, taxed at 16,061 rupees.

2. The Ramnad Zemindary manager reported that, owing to a failure of rain at the beginning of the ploughing season in that zemindary, cotton cultivation had not taken place, and that, when the rain did begin, it fell so continuously, that the people were unable to sow cotton, which is the cause of the blanks in the columns opposite to Ramnad, in the statement; however, I hope the returns up to the end of December will show an extensive cultivation of cotton, undertaken since the rain has begun to hold up.

3. I have every reason to believe that cotton cultivation is still extending in the other talooks, &c., and that the returns of this month will show a great increase over the cultivation of last year.

4. The cotton crops are in a thriving condition, and promise a good crop.

COMPARATIVE STATEMENT of Cotton Cultivation up to November 1862, or Fasli 1272, in the District of Madura.

Names of the Talooks.	Cultivation up to November 1861 (Fasli 1271).		Cultivation up to November 1861 (Fasli 1272).		Increase.		Decrease.		Remarks.
	Extent.	Assess- ment.	Extent.	Assess- ment.	Extent.	Assess- ment.	Extent.	Assess- ment.	
	<i>Acres.</i>	<i>Rs.</i>	<i>Acres.</i>	<i>Rs.</i>	<i>Acres.</i>	<i>Rs.</i>	<i>Acres.</i>	<i>Rs.</i>	
Tirumungalam -	19,806	39,328	30,370	59,498	10,564	20,160	—	—	
Madura - -	369	607	437	800	68	193	—	—	
Melur - -	—	—	—	—	—	—	—	—	
Dindigul - -	669	690	1,267	1,551	598	861	—	—	
Pereacolum -	2,183	2,592	2,420	2,840	237	248	—	—	
Palani - -	7,563	11,573	4,533	5,940	-	-	3,030	5,633	The Tahsildar reports that the continuous falls of rain for past month is the cause of the decrease in the cultivation.
Ramnad Zemindary	—	—	—	—	—	—	—	—	
Sevanganah „	426	416	541	648	115	232	—	—	
TOTAL - - -	31,016	55,216	39,568	71,277	11,582	21,694	3,030	5,633	
				Net -	8,552	16,060			

Madura,
16 December 1862.

V. H. Levinge,
Collector.

— No. 60. —

II.
Madras.

(No. 365.)

LETTER from *E. B. Foord*, Esq., Acting Collector of the Kistna District, to *W. Hudleston*, Esq., Secretary to the Board of Revenue; dated Masulipatam, 19 November 1862, No. 287.

1. I OBSERVE that in the cotton map of the Madras Presidency, forwarded to me by the Board, nearly the whole of this district is coloured as a “cotton-growing locality.”

2. As this is calculated to convey a very erroneous impression, I have the honour to annex, for the information of the Board, a statement showing the several talooks of this districts in which cotton is grown, and the number of acres grown in each; and to state that cotton is not grown at all in the talooks of Bandar, Gudivada, Repali, and the Nuzid estate, and (as the Board will observe from the statement) very little in Bezwada and scarcely any in Bapatla talooks.

MEMORANDUM of Cotton Cultivation in the Kistna District.

TALOOKS.	Whole Ayakut of the Talook.	Cotton Land.		TOTAL.
		Seri.	Inám.	
1.	2.	3.	4.	5.
	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>
Bezwada - - - - -	73,118	143	1	144
Bapatla - - - - -	204,038	19	24	43
Nandigama - - - - -	201,370	4,316	759	5,073
Guntoor - - - - -	199,014	6,838	2,373	9,211
Krosur - - - - -	220,778	20,073	7,097	27,110
Rajapeta - - - - -	211,210	4,727	3,695	8,422
Vinukonda - - - - -	129,799	4,032	2,131	6,163
Palnad - - - - -	227,321	27,831	20,859	48,690
Vissannapeta, including Zemindary -	1,920	339	17	356
				105,212

E. B. Foord,
Acting Collector.

— III. —

B O M B A Y.

— No. 1. —

(No. 35 of 1860.)

To *H. Young, Esq.*, Chief Secretary to Government, Bombay.III.
Bombay.

Bombay Chamber of Commerce, Bombay,

10 April 1860.

Sir,

1. By direction of the Committee of the Chamber of Commerce, I have the honour to acknowledge receipt of your letters, No. 984, dated 10th March, and No. 1183, dated 27th March, having chiefly reference to the cultivation of cotton in the Southern Mahratta country.

2. The opinions against the adoption of penal measures to secure the cultivation of unmixed cotton are so strong, that the Chamber cannot but concur in the decision of Government to allow the ryots to cultivate in whatever mode they may deem most conducive to their own interest. The Chamber, however, believes that the discussion has not been without effect in inducing the ryots to adopt, to some extent, those measures which it was proposed to promote by legislative interference.

3. The largely increased breadth of cultivation with exotic cotton in these districts, and the generally improved quality of last season's produce, are satisfactory evidences of an advance on the part of the ryots; and the Chamber trusts that the increased profits obtained by the producer will shortly bring about a still further extension of cultivation.

4. The great obstacle to an European agency in Dharwar, is the length of time required to convey the cotton to the shipping port, and, from the peculiarity of the monsoons which affect that district, the short period into which such transport is confined. The cotton is picked in March, but cannot be brought in any quantity to the coast for shipment to Bombay before the following December, the state of the roads being an insurmountable difficulty. Good metalled roads and bridges over the rivers and nullahs would, doubtless, effect much in reducing this delay, and the Chamber cannot but urge upon Government the necessity of taking steps to improve the communications.

5. The Cotton Supply Association have shipped several parcels of American seed this season, but an extraordinary series of mishaps has attended the vessels by which the shipments have been made, no less than three ships out of four having been totally lost.

6. The quantity of seed available has, therefore, been reduced to 26 barrels, of which five have been placed at the disposal of Dr. Forbes. The quality and condition of the seed is excellent, and will doubtless give a good result.

7. It is matter of great gratification to the Chamber to hear of the success that has attended the experiments of Captain Meadows Taylor in the Ceded Districts, and they look with much interest to their further development; the quality of the cotton (cleaned by the common Berar churka) leaves nothing to be desired.

8. Much interest is felt in the promised experiments with the new gin of Dr. Forbes, which, if successful, will no doubt go far to increase the supply of cotton, as labour is stated to be scarce in the northern districts, and the natives

III.
Bombay

are extremely anxious to have the means of bringing their produce early to market.

9. The Chamber has observed that the Government have closed the last of the establishments for the experimental cultivation of cotton, lately conducted by Mr. Daley. It certainly would appear that the trials at Dholka and Gogo have been complete failures; but as that at Dhundooka seems to have been moderately successful, and as Dr. Forbes will have an opportunity of expressing his opinion on the prospects of further experiments, the Chamber would, in the event of a favourable report, be prepared (on behalf of the Cotton Supply Association) to contribute to a moderate extent to the salary required by the manager of the Government establishment there, in order that the seed saved should be sown again this season. Should the quantity of seed be sufficient, it might be either sold or given away to those ryots who would be willing to accept it, in order that, being now acclimated, the opportunity should not be lost of carrying on its cultivation under favourable auspices.

10. The weekly reports furnished to the Chamber by the Dhundooka establishment would, if properly kept up, be of great service in enabling them to prepare a treatise on the cultivation of exotic cotton. Should Government accede to this suggestion, the Chamber will, without delay, give such directions to the manager referred to, as will ensure the practical utility of the experiment.

11. The Chamber do not think it necessary to discuss further the vexed question of hybridizing, as, although interesting in a scientific point of view, it appears that all parties are agreed as to the necessity of removing the native plants from the American fields; and it is, therefore, of little real practical importance to ascertain whether their appearance is due to wilful admixture or to natural causes.

12. Now that the special establishments for the experimental cultivation of cotton are closed, the Chamber would venture respectfully to submit, whether it might not be desirable to intimate to the various Collectors in this Presidency that Government still regards the question with interest, and that if they or their subordinates are willing to make trials on a small scale, the Government is not unwilling to sanction the expense. It must be many years before private enterprise can take the initiative in the interior; and these small experiments, while of trifling cost to Government, might result in indicating those districts which are suitable to the cultivation.

13. The Chamber has been chiefly induced to offer this suggestion by the unexpected success which seems to have attended the experiments of Captain Meadows Taylor. In former years, those of Mr. Alexander Elphinston, at Rutnagherry, appeared also to give hopes of success, but his removal to another district brought them to a premature conclusion. It would seem that, in most cases where care and intelligence had been brought to bear on the plant, success attended the experiments; so that by leaving it to the Collectors themselves to cultivate or not, as their tastes prompted, there would be a fair prospect of a favourable result.

I have, &c.

H. Brooke, Secretary.

No. 1,437 of 1860.—Revenue Department.

* With reference to Government Memorandum, No. 985, dated 10th March 1860, and Government Resolution, No. 1182, dated 27th idem.

COPY of the above letter is forwarded to the Revenue Commissioner,* Southern Division,* for information, and for any remarks he may have to offer in regard to paragraphs 4 and 12.

(No. 1,438 of 1860.)

III.
Bombay.

COPY of the above letter is also forwarded to the Revenue Commissioner, Northern Division, for information, and for early report on the subject of paragraphs 9, 10, and 12.

Bombay Castle,
18 April 1860.

H. L. Anderson,
Acting Chief Secretary to Government.

— No. 2. —

No. 207 of 1861.—Revenue Department.

To *H. Brooke, Esq.*, Secretary to the Chamber of Commerce.

Sir,

I AM directed by his Excellency the Governor in Council to forward herewith, for submission to the Chamber of Commerce, copies of the replies received from the two Revenue Commissioners to references made to them on the receipt of your letter, No. 35, dated the 10th April last.

Letter from the Revenue Commissioner, S. D., No. 1140, dated 27 June 1860.

Letter from the Revenue Commissioner, N. D., No. 1051, dated 8 May 1860.

Letter from the Revenue Commissioner, N. D., No. 1077, dated 10 May 1860.

Letter from the Revenue Commissioner, N. D., No. 1574, dated 19 July 1860.

2. The Honourable the Governor in Council regrets that the limitation which the state of the finances has compelled the Government to put upon public works expenditure, has prevented the improvement of the roads in the Dharwar Collectorate, which are so much called for, and the utility of which his Excellency in Council fully recognises; but he hopes that these improvements will now be undertaken at an early date, with the view of connecting the cotton-growing districts of the Southern Mahratta country with Sudasewghur, and will remove the obstacles to the development of the cotton trade with the districts of the Southern Mahratta country, which the Chamber of Commerce complain of in the fourth paragraph of your letter.

3. I am also desired to request that you will inform the Chamber, that Government consider the time to have arrived for discontinuing all experiments for improving the growth of cotton which involve the cultivation of land under the direct supervision of their own officers. The cost already incurred on these experiments has been great, and, as observed by Mr. Mansfield, the practical utility of them is extremely doubtful; and for the reasons stated by him in paragraph 5 of his letter, No. 1,051, dated the 8th May last, Government are indisposed to unite with the Chamber in continuing the experiments at Dhundooka, as proposed in paragraph 9 of your letter under acknowledgment. They will, however, be glad to instruct the Collector of Ahmedabad to support and assist any experiment which the Chamber itself may undertake for the purpose of testing how far New Orleans, Sea Island, Egyptian, or any other variety of cotton, can be profitably cultivated in Guzerat, in the manner suggested by Mr. Mansfield in paragraph 11 of his letter above quoted.

I have, &c.

Bombay Castle,
11 January 1861.

A. D. Robertson,
Acting Secretary to Government.

Enclosure 1, in No. 2.

No. 1140 of 1860.—Revenue Department.

From *J. N. Rose, Esq.*, Revenue Commissioner, Southern Division, to *B. H. Ellis, Esq.*, Secretary to Government.

Sir,

Poona, Revenue Commissioner's Office, 27 June 1860.

I HAVE the honour to acknowledge the receipt of your endorsement, No. 1437, dated the 18th April last, forwarding copy of a letter* from the Secretary to the Bombay Chamber

* No. 35 of 1860.

III.
Bombay.

ber of Commerce, and calling for any remarks I may have to offer with regard to paragraphs 4 and 12 of that communication.

2. The Collector of Dharwar, to whose districts Mr. Brooke's remarks in paragraph 4 refer, states that "an European agency has been established at Bunkapoor, and a great deal has been done of late years to improve the roads. Good metalled roads and bridges are very desirable, and it is to be hoped that, when the existing financial difficulty has been surmounted, some of the projected lines will be constructed.

"It must be borne in mind, however, that the coast navigation is closed by the 20th of May, and, therefore, no amount of roadmaking will enable much cotton to reach Bombay before December. The great want of this part of the country is the opening of the port of Sadasewghur, where cotton would be shipped direct for Europe. This would obviate the delay complained of."

3. With regard to the 12th paragraph of the Secretary's letter, Mr Goldfinch thinks, and I fully agree with him, that Government should be cautious in giving discretionary power to their officers to expend money in making experiments. He is of opinion that any officer wishing to try experiments should be required to obtain the approval and sanction of Government before incurring any expenditure at all; and he adds that the instance of Mr. Elphinston's experiment at Rutnagherry, quoted by Mr. Brooke, is one in which a great deal of money was expended without any useful result whatever.

4. There can hardly, I think, be a question as to the expediency of Government taking any part in the culture of cotton. Past experiments, and the losses Government have already sustained by them, sufficiently indicate this; and I am clearly of opinion that the ryots should be left to cultivate cotton, or not, upon their lands as they may find it to their advantage or otherwise.

I have, &c.

J. N. Rose,

Revenue Commissioner, Southern Division.

Enclosure 2, in No. 2.

No. 1051 of 1860.—Revenue Department.

From *S. Mansfield*, Esq., Revenue Commissioner, Northern Division, to *B. H. Ellis*, Esq., Secretary to Government, Bombay.

Sir,

I do myself the honour to acknowledge the receipt of the Government memorandum, No. 1438, dated 18th ultimo, forwarding for early report a letter from the Chamber of Commerce, Bombay, No. 35, dated 10th idem.

2. A few days before the above came to hand, I received a letter from Dr. Forbes, reporting the result of his visit to the cotton-growing districts of Guzerat; and as both these papers bear upon the same subject, I avail myself of this opportunity to reply simultaneously to paragraphs 6 and 7 of the Government Resolution, No. 372, dated 27th January 1860.

3. The points to be noticed are,—

1st. Completion of the experiments which were in progress during the early part of this season in the Ahmedabad Collectorate, and further trials next season, under Government supervision, the Chamber meeting a portion of the expenses.

2nd. Advisability of getting the several Collectors of this Presidency to get up experiments on a small scale, under their own supervision, or that of their subordinates.

3rd. Advisability of keeping up any portion of the establishment entertained at Dhundooka for ginning or other purposes.

4. With reference to the first point, Doctor Forbes remarks as follows:—

"As regards the experiments, I fear that no very decided results can be recorded from what has hitherto been done. At Gogo, where I had been informed that 60 beegahs of New Orleans cotton were sown, I found a piece of land of about eight or ten acres, enclosed by a dry thorn hedge; but there was no appearance of any produce, nor was it quite apparent that the land had been at all prepared in the manner required for cotton cultivation.

"On further search about two dozen plants were discovered in one spot, varying in height from one to two inches. A small space round each (made for the purpose) showed that water had been supplied, and that the seeds from which the plants had sprung must have been sown within six or eight days of the period of my visit. The locality was not a good selection for New Orleans cotton; but I think the 'Sea Island' variety would be found to answer in it.

"At Dhundooka the carkoon in charge showed me a field of 70 beegahs in which American cotton had been sown in August last: the produce, which was reaped in January following, amounted only to 160 lbs. of seed cotton. I have taken a sample of it with me.

"Only

Paras. 9 and 10 of the Chamber's Letter, and para. 7 of the Government Resolution.

Para. 12 of the Chamber's Letter.

Para. 6 of the Government Resolution.

"Only a very small proportion of the seeds appear to have been grown, and the plants, which were thinly scattered over the whole field, might, if confined to one spot, have been sufficient for about four-fifths of an acre. Their appearance, as far as an opinion could be formed of them at that season, bore testimony of the suitability both of the soil and climate to this variety of cotton; and taking also into consideration the evident want of care that had been bestowed upon the cultivation, as evinced by the condition of the land, the return (in proportion to the number of plants), both as regards quantity and quality, would tend to strengthen this conclusion.

"In the close vicinity of this field there was another patch of land, of about four acres in extent, sown with Egyptian cotton, to which the above remarks are also applicable, except that, owing to the seed having been sown much too late (*viz.* in the end of November), none of the produce had as yet ripened. A large proportion of the plant, however, were strong, luxuriant, and healthy-looking, and they bore young pods in great abundance; but, owing to the excessive heat of the sun at that season, the latter appeared as if they were being forced to ripen and open prematurely. For this reason the cotton, when it is produced, will afford no criterion of the quantity of staple that might have been expected from better and more seasonable cultivation.

"From my own observation, and what I could otherwise ascertain with regard to soil and climate, I believe that the above-mentioned descriptions of cotton might be cultivated with advantage in the country to the west and north of the Gulf of Cambay, though they have not been found to answer upon the opposite side of its shores. At the same time, if the attempt is to be made, little good will result from sending seed to the ryots through the mamlutdars, as I believe has already been done, though it is by no means certain that any of it was ever sown.

"It can hardly be expected that the ryot will go to the trouble of trying an experiment, the failure of which would entail the loss of his labour as well as the produce of his land for the season; he must be first assured that there is at least some probability of success, and the results of the attempts hitherto made have not been such as to convince him of this.

"Under existing circumstances, I feel somewhat at a loss as to the course that can be recommended for bringing to a satisfactory conclusion the experiments that have been desired in that part of the country. Closing the establishment at Dhundooka, even if it should prove to be but a temporary measure, will entirely preclude the possibility of Government continuing them for the present; and the only alternative that presents itself to me is, that it might be suggested that the Chamber of Commerce would take the matter entirely into its own hands, making Dhundooka one of the localities in which, as I perceive from their last published report, they intend prosecuting experiments in connexion with and under the auspices of the Manchester Cotton Supply Association."

5. From the above description, and from my own personal knowledge of the Guzerat experiments, I scarcely think that the experiments at Dhundooka can be said to have been "moderately successful," nor do I place much confidence in the opinion expressed by Dr. Forbes, who is quite unacquainted with the soil and climate of Guzerat, and formed his conclusions after a hasty visit of a very few days to the spot.

6. The practical utility of cotton experiments generally appears to me extremely doubtful. I am intimately acquainted with the history of those made in the Dharwar, Belgaum, Khandesh, Surat, Broach, and Ahmedabad Collectorates during the last 25 years, and I can safely say that not one new fact bearing on the improvement of the cultivation of cotton has been elicited in that period. This result is not to be wondered at, considering that the persons entrusted with the carrying out of them, with the exception of the gentlemen brought from America, knew little or nothing of agriculture either in theory or practice, and were guided in all their operations by native cultivators.

7. With regard to the American planters, I was thrown very much into the society of several of them, from my having been in charge of the districts, the scene of their operations, in the Dharwar Collectorate, and I watched with great interest their experiments for several years. These, however, had no result further than the introduction of the New Orleans cotton, cultivated on the system followed by the natives in the cultivation of indigenous cotton. The planters, who were very sagacious and acute observers, soon ascertained that the system of cultivation followed in America was unsuitable to India, and moreover admitted that the nearer they adopted the native practice the better crops they obtained.

8. That the native system of cultivation does not admit of improvement I do not for one moment mean to assert; but it will require the lifetime of Europeans well versed in agricultural science to be spent in the country, and cannot be expected from the efforts of pensioned sergeants and clerks, whose only recommendation for the superintendence of cotton experiments may be their good character for sobriety and honesty.

9. I beg to draw attention to the advertisement by the Chamber of Commerce, which shows an extraordinary want of knowledge of the subject treated. People are therein advised to plant cotton in May and November; if they did so, they would inevitably lose both the seed and their labour. The soil in the month of May is very

III. Bombay.

much like cinders heated to a temperature of 150 degrees. The soil continues in this heated state till the middle or end of June, when the seed, if not become cinders also and deprived of all germinating power, is reduced to a state of rottenness by the torrents of rain at the first burst of the monsoon. If the sowing again is delayed till November, the cotton has not time to ripen before the fierce heat of the sun forces the bolls to open prematurely, as was the case with the cotton described by Dr. Forbes.

10. Any person acquainted with agriculture in India is aware that no seed of any description of grain, cotton, &c., can be planted before the soil is moistened and cooled by the rains, and the time for sowing depends entirely on the fall of rain. For instance, in Khandesh, if rain sufficient for sowing does not fall before the first week in August, no cotton is planted; for the experience of ages has taught the people that a profitable return cannot be expected from a crop planted so late.

11. As the services of any person with the qualifications necessary for the superintendence of a Government experiment are not procurable, I cannot recommend Government to waste any more money in continuing the experiments at Dhundooka; but if the Government and the Chamber of Commerce think it desirable to ascertain whether New Orleans, Sea Island, Egyptian, or any other variety can be profitably cultivated in Guzerat, I would suggest that the seed be sent to the Collector of Ahmedabad, with directions to engage ryots to plant it, paying them liberally for their labour and the use of their land, and also giving them a bonus if they are successful in raising good crops. I would pay seven rupees an acre for all lands so cultivated, and three rupees more if the crop was a good one. The former sum would not be more than sufficient to enable the ryot to pay the assessment, and reimburse himself for his labour; and if the crop turned out a good one, the whole expense would be repaid. I think 5,000 rupees per annum might be not unprofitably expended on such experiment.

12. If the course above recommended be adopted, no weekly reports can be expected, as proposed in the 10th paragraph of the Chamber's letter.

13. Now to the second point, viz., advisability of getting the several Collectors to get up experiments on a small scale. I certainly cannot support this recommendation of the Chamber, which is contrary to their repeatedly expressed opinions of the inutility of such experiments. No later than the 5th May 1859 did their secretary, in his letter No. 48 to Government, write as follows:—

“The officers should also be directed to avoid garden experiments with the seed, as the results of such afford little or no criterion as to the success or otherwise of an extended cultivation of the plant.”

14. The absurdity and uselessness of such experiments were well exemplified in Mr. Elphinston's experiments in Rutnagerry, alluded to in the Chamber's 13th paragraph. The soil and climate of that collectorate are only adapted to rice and very coarse grains, and are quite unsuitable to the grains, &c., cultivated above the ghauts. Mr. Elphinston certainly did produce cotton, but how did he do it? By expending four shillings in realizing a pound of cotton valued in Liverpool at threepence!

15. With reference to the third point, viz., advisability of keeping up an establishment at Dhundooka, I beg to subjoin paragraphs 2 to 9 of Mr. Forbes' letter to my address, dated 16th April 1860:—

“2. If the suitability of the saw-gin was the only point for consideration, the question of dispensing with the establishment might be at once replied to in the affirmative, because that machine is no better adapted to the cotton of the surrounding districts than it was found to be to the indigenous produce of the Southern Mahratta country, for the cleaning of which it has long since been abandoned.

“3. A very conclusive proof of the practical correctness of this statement was the fact that at the thread, spinning mills at Broach, I found churkaed cotton alone was resorted to, although the concern was provided with an extensive assortment of gins driven by steam, at which the required cotton might have been cleaned at somewhere less than one-fifth of the cost of the churka labour.

“4. But if machinery on the roller-churka principle could be produced, which would operate successfully upon Guzerat cotton, the increasing scarcity and enhanced value of labour would, I have no doubt, cause it to be most extensively resorted to, and in that event an establishment similar to that of Dhundooka would be desirable, if not indispensable, as a point to start from; for however simple the mechanism might be, where natives were concerned, some supervision would in the first instance be required, until such time as they became accustomed to it, and discovered that its advantages were sufficient to induce them to provide the necessary supervision for themselves, in the same manner as is now being done by the ryots and dealers in the Dharwar districts.

“5. I find, however, that there is a marked difference between the various indigenous cottons of Guzerat and the like produce of the Deccan and southern districts: the fibre is not only, comparatively, more abundant on the seed, but it also adheres much more tenaciously to it; and both these peculiarities will, I believe, interfere with the

Vide your Letter,
No. 1744, dated
9 May 1859.

Dr. Forbes, in a subsequent letter, states, that a superintendent, somewhat on the same footing as Mr. Daley, will be required, without an assistant.

the operations of the new churka, rendering some modifications necessary, which have not yet been thought of.

"6. The fact that the above cottons are now cleaned by the hand churka, does not affect this probability, for reasons that can be explained, and to which is to be attributed the circumstance of the common hand churka of Guzerat differing so materially, in its relative proportions, from that made use of in the Dharwar districts.

"7. At the same time, I hardly entertain a doubt that the required modifications will be readily ascertained and applied at home; but for this purpose, it will be necessary to have some of the raw material to operate upon; and I should therefore feel obliged if it could be arranged that a bag of Dhundooka kuppas, known as Wagria, and one of Broach seed cotton, each containing about seven maunds, or 300 lbs., could be procured from those districts, and sent by sea to England by an early opportunity.

"8. In anticipation of being able to obtain the requisite implement, and keeping in view the difficulty and inconvenience that might be experienced in providing premises and machinery for a new workshop, in event of such being required, I think that, for the time being, it might be desirable to retain those at present at Dhundooka, dispensing immediately with the services of the native establishment now entertained, which consists of a carkoon and three workmen.

"9. I have the less hesitation in recommending this course, because, whatever may be the ultimate result, the outlay, during the time which may be required to ascertain it, need be but very small. One man upon eight or ten rupees a month, placed under the orders of the mamlutdar, would suffice for attending to the preservation of the machinery and premises; and in case of the measure being adopted, I have annexed a memorandum of items, noted upon the spot, which might be given to the mamlutdar, to enable him to understand what would require to be attended to by the person placed in charge."

16. The "Memorandum of Items," referred to by Dr. Forbes, accompanies in original. I concur in the views expressed by that gentleman in paras. 8 and 9, and beg to recommend them for adoption; the wages of the man who may be employed to look after the machinery being met by a contingent bill, until further orders, at any rate for six months certain.

17. Dr. Forbes' proposals regarding the retention of an establishment at Dhundooka, will depend upon whether machinery can be produced in England to clean the Guzerat cotton without injuring its staple. I have (on the 20th ultimo) desired the Collectors of Ahmedabad and Broach to send to Bombay 300 lbs. of Wagria and Broach seeded cotton, and have requested the Commissioner of Customs, Salt, and Opium to forward them to London, to the care of Messrs. Grindlay & Co., Cornhill, at the suggestion of Dr. Forbes. I shall be obliged by your sending, with the permission of his Lordship in Council, whatever instructions may be deemed necessary in furtherance of the object in view.

18. I am afraid sufficient time does not remain to admit of the proposal contained in para. 11 hereof, if sanctioned, being carried out.

I have, &c.

Revenue Commissioner's Office,
Camp Matheran, 8 May 1860.

S. Mansfield,
Revenue Commissioner, Northern Division.

MEMORANDUM of what requires to be attended to for the Preservation of the Government Premises and Machinery at Dhundooka.

THE carkoon in charge wished to obtain this employment, but I found that during the short period the place had been left to his care the machinery was not once cleaned, though he had three workmen idle under him, and I was not favourably impressed with what I saw of him in other respects.

The carpenter, whose name is Ummersee, might be employed, if he was satisfied with 10 rupees per month, which is amply sufficient; if not, an intelligent coolie may be found, who would do the work sufficiently well upon eight rupees pay. In addition to this, an outlay of six or eight annas per month will be necessary for the purchase of oil.

Two turning-lathes constitute the most valuable portion of the property, and these, with their "slide-rests," should have a slight oiling and be well cleaned daily, more especially during the prevalence of the monsoon. I explained to the carpenter the manner in which this was to be done, making him perform the work in my presence; and I also gave him directions for constructing two boxes of covers for the slide-rests, which should be always kept over them except when they are being cleaned. The other property belonging to these articles, consisting of "chucks rests," turning tools, &c. (of which I believe the mamlutdar has a list) should be removed from the godown where they have been deposited, and the portion belonging to each lathe placed in a locked box beside it (there are boxes for the purpose), so that they may also be daily looked after; and as the mamlutdar's kutcherry is close by, either he or his carkoon might be made to visit

III.
Bombay.

the workshop once a week, and to report monthly to the collector that the articles are being attended to.

The saws in the gins should also be oiled and cleaned in the same manner, to prevent their rusting; there are eight of these machines built into position, and they require bamboo mat placed upright in front and within three feet of them, to prevent rain beating in during the monsoon. The "driving wheels" belonging to these gins should be removed from the present situation, and placed inside the lint-rooms, as the shed which was erected for their protection has fallen in.

There are also two "Macarthy gins," which are not likely to come into use: they might either be returned to the quarter from which they were received, or if there is any desire to know how they would work under steam, for which alone they are adapted, they might be sent to the spinning mill at Broach. The superintendent, Mr. Horsfall, told me that he would be happy to take charge of them, and to work them, reporting the results.

Lastly, before the monsoon sets in, the tiles of the workshop and godowns should be turned as usual, yearly, to prevent leaking; the cost I believe is six rupees.

G. F. Forbes,
Superintendent Dharwar Gin Factory.

Enclosure 3, in No. 2.

No. 1077 of 1860.—Revenue Department.

From *S. Mansfield*, Esq., Revenue Commissioner, Northern Division, to *B. H. Ellis*, Esq.,
Acting Secretary to Government, Bombay.

Revenue Commissioner's Office, Camp Matheran,
10 May 1860.

Sir,

SINCE I despatched my letter No. 1051, dated 8th instant, I find I slightly misquoted that portion of the advertisement of the Chamber of Commerce alluded to in para. 9, which is as follows:—

"It is recommended that the seed should be sowed shortly before the setting in of the rains, and after the rains have ceased, in order that the relative advantages of early and late sowing may be tried."

2. You will observe that the observations I made are in no way affected by the mistake.

I have, &c.,
S. Mansfield, Revenue Commissioner, N. D.

Enclosure 4, in No. 2

No. 1574 of 1860.—Revenue Department.

From *S. Mansfield*, Esq., Revenue Commissioner, Northern Division, to *B. H. Ellis*, Esq.,
Secretary to Government.

Revenue Commissioner's Office, Poona,
19 July 1860.

Sir,

WITH reference to para. 17 of my letter No. 1051, dated 8th May last, I have the honour to report, for the information of his Excellency in Council, that from a letter received from Mr. Jenkins, Deputy Commissioner of Customs at the Presidency, I find that the Wagria and Broach seeded cotton therein alluded to have been "shipped to London to the care of Messrs. Grindlay & Co."

2. Mr Jenkins does not mention the name of the vessel by, and the date on, which they were shipped; but I presume the bills of lading have been duly forwarded home through the Secretariat, Bombay.

I have, &c.,
S. Mansfield, Revenue Commissioner, N. D.

Vide Bombay
Gazette of 9 May
1860, page 440,
column 5.

— No. 3. —

HALF-YEARLY REPORT of the GOVERNMENT FACTORY at Dhurungaum, ending 30 November 1860.

Number.	NAMES.	Sta- tions.	Remarks on the past Season, as to how far Anticipations regarding the Crop and its Disposal were realised.	Quantity of Cuppass on Hand on account of Government, of each Sort, Ginned or not.				Supposed Proportion of last Year's Crop which has been cleaned on Saw Gins, or will be cleaned.			
				New Orleans.	Broach.	Total.	Country.	New Orleans.	Broach.	Total.	Country.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1	Dhoolia - - -	1	The past has been a very unfavourable season for the culti- vation of cotton. The plants were generally stunted, in conse- quence of the unfavourable monsoon.	-	-	-	-	-	-	-	-
2	Amulnair - - -	1		-	-	-	-	-	-	-	-
	Bettawood - - -	-		-	-	-	-	-	-	-	-
3	Errundole - - -	-		-	-	-	-	-	-	-	-
	Cassoda - - -	1		-	-	-	-	-	-	-	-
	Dhurungaum - - -	1		-	-	-	-	-	-	-	-
	Paldee - - -	1		-	-	-	-	-	-	-	-
4	Bhurgaum - - -	-		-	-	-	-	-	-	-	-
5	Chaligaum - - -	-		-	-	-	-	-	-	-	-
6	Molligaum - - -	-		-	-	-	-	-	-	-	-
7	Bhaglar - - -	-		-	-	-	-	-	-	-	-
8	Pimpulnair - - -	-		-	-	-	-	-	-	-	-
9	Nundoorbar - - -	-		-	-	-	-	-	-	-	-
10	Sooltanpoor - - -	-		-	-	-	-	-	-	-	-
11	Katnair - - -	-		-	-	-	-	-	-	-	-
12	Chopra - - -	-		-	-	-	-	-	-	-	-
	Arrawood - - -	-		-	-	-	-	-	-	-	-
13	Yawul - - -	-	-	-	-	-	-	-	-	-	
14	Sowdah - - -	1	-	-	-	-	-	-	-	-	
15	Nusserabad - - -	-	-	-	-	-	-	-	-	-	
	Jelgaum - - -	1	-	-	-	-	-	-	-	-	
16	Jamnair - - -	-	-	-	-	-	-	-	-	-	
	Parola - - -	1	-	-	-	-	-	-	-	-	
17	Khawngaum - - -	1	-	-	-	-	-	-	-	-	
TOTAL - - -				-	-	-	-	-	-	-	-

Number.	NAMES.	G I N S.								Amount Expended in the Construction of Gins.
		In Use.		Out of Use.		Completed.		Sold for Government.		
		Belonging to Go- vernment.	Belonging to Private Individuals.	Belonging to Government.	Belonging to Private Individuals.	Belonging to Go- vernment.	Belonging to Private Individuals.	Number.	For what Amount.	
		13.	14.	15.	16.	17.	18.	19.	20.	21.
									Rs. a. p.	
1	Dhoolia - - -	-	-	-	2	-	-	-	-	-
2	Amulnair - - -	-	-	-	2	-	-	-	-	-
	Bettawood - - -	-	-	-	-	-	-	-	-	-
3	Errundole - - -	-	-	-	-	-	-	-	-	-
	Cassoda - - -	-	-	-	-	-	-	-	-	-
	Dhurungaum - - -	-	-	64 ; not in use just now.	2 cattle power machines, and 4 gins.	-	-	-	-	-
	Paldee - - -	-	-	-	1 cattle-power machine, and 3 gins.	-	-	-	-	-
4	Bhurgaum - - -	-	-	-	-	-	-	-	-	-
5	Chaligaum - - -	-	-	-	-	-	-	-	-	-
6	Molligaum - - -	-	-	-	-	-	-	-	-	-
7	Bhaglar - - -	-	-	-	-	-	-	-	-	-
8	Pimpulnair - - -	-	-	-	-	-	-	-	-	-
9	Nundoorbar - - -	-	-	-	-	-	-	-	-	-
10	Sooltanpoor - - -	-	-	-	-	-	-	-	-	-
11	Katnair - - -	-	-	-	-	-	-	-	-	-
12	Chopra - - -	-	-	-	-	-	-	-	-	-
	Arrawood - - -	-	-	-	-	-	-	-	-	-
13	Yawul - - -	-	-	-	-	-	-	-	-	-
14	Sowdah - - -	-	-	-	-	-	-	-	-	-
15	Nusserabad - - -	-	-	-	-	-	-	-	-	-
	Jelgaum - - -	-	-	-	4	-	-	-	-	-
16	Jamnair - - -	-	-	-	-	-	-	-	-	-
	Parola - - -	-	-	-	2	-	-	-	-	-
17	Khawngaum - - -	-	-	-	2	-	-	2	210 3 4	-
TOTAL - - -		-	-	64	19	-	-	2	210 3 4	-

Half-yearly Report of the Government Factory at Dhurungaum, ending 30 November 1860—*continued.*

Number.	NAMES.	Other Items of Expenditure during the Half-year under Report.							Amount Expended up to the last Half-year.	Total Expenditure up to the Half-year under Report.	Total Receipts up to the Half-year under Report.
		Purchase and Gin- ning of Cotton.	Contingencies.	Buildings.	Temporary Esta- blishment.	Amount of Super- intendence.	Amount of Esta- blishment.	Total Amount.			
		22.	23.	24.	25.	26.	27.	28.	29.	30.	31.
			<i>Rs. a. p.</i>	<i>Rs. a. p.</i>			<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>
1	Dhoolia - - -	-	- -	- -	-	-	-	-	1,770 3 4	1,770 3 4	-
2	Amulnair - - -	-	- -	- -	-	-	-	-	1,984 12 8	1,984 12 8	-
	Bettawood - - -	-	- -	- -	-	-	-	-	2,299 2 11	2,299 2 11	-
3	Errundale - - -	-	- -	- -	-	-	-	-	849 6 11	849 6 11	-
	Cassoda - - -	-	- -	- -	-	-	-	-	442 14 2	442 14 2	-
	Dhurungaum - - -	-	23 1 2	67 5 7	-	-	708 - -	798 6 9	1,36,160 14 7	1,36,959 5 4	1,18,079 11 10
	Paldee - - -	-	-	-	-	-	-	-	-	-	-
4	Bhurgaum - - -	-	-	-	-	-	-	-	-	-	-
5	Chalisgaum - - -	-	-	-	-	-	-	-	-	-	-
6	Molligaum - - -	-	-	-	-	-	-	-	-	-	-
7	Bhaglar - - -	-	-	-	-	-	-	-	-	-	-
8	Pimpulnair - - -	-	-	-	-	-	-	-	-	-	-
9	Nundoorbar - - -	-	- -	- -	-	-	-	-	4,161 12 -	4,161 12 -	-
10	Sooltanpoor - - -	-	- -	- -	-	-	-	-	212 15 3	212 15 3	-
11	Katnair - - -	-	- -	- -	-	-	-	-	380 9 8	380 9 8	-
12	Chopra - - -	-	- -	- -	-	-	-	-	15,563 5 8	15,563 5 8	-
	Ararwood - - -	-	- -	- -	-	-	-	-	2,491 11 11	2,491 11 11	-
13	Yawul - - -	-	- -	- -	-	-	-	-	4,343 7 -	4,343 7 -	-
14	Sowdah - - -	-	- -	- -	-	-	-	-	35 8 -	35 8 -	-
15	Nusserabad - - -	-	- -	- -	-	-	-	-	1,018 2 11	1,018 2 11	-
	Jelgaum - - -	-	- -	- -	-	-	-	-	23,160 13 9	23,160 13 9	-
16	Jamnair - - -	-	- -	- -	-	-	-	-	2,280 15 7	2,280 15 7	-
	Parola - - -	-	-	-	-	-	-	-	-	-	-
17	Khawngaum - - -	-	-	-	-	-	-	-	-	-	-
TOTAL - - -		-	23 1 2	67 5 7	-	-	708 - -	798 6 9	1,97,156 12 4	1,97,955 3 1	1,18,079 11 10

REMARKS.

During the half-year under report, two cattle-power machines were constructed in this factory for the use of private individuals; one to work two gins of 20 saws by four bullocks, for Bickarreesett at Dhurungaum, and the other to work four gins by eight bullocks, for a soucar at Khaungam; and two gins of 20 saws each sold to this latter individual, who has applied for four others on hire to work the large machine.

The following amounts were received during the half-year under report:—

	<i>Rs. a. p.</i>
Hire of six gins to Bickarreesett, soucar of Dhurungaum - - -	161 - -
Repairs to a gin belonging to ditto - - - ditto - - -	1 9 7
Hire of two gins to Letchmon Sett, soucar of Dhurungaum - - -	16 - -
Repairs and materials to ditto - - - ditto - - -	75 12 6
Hire of a gin to Kissonass Bholoram, soucar of Cassodah - - -	26 - -
Hire of a gin to Govinda, mallee of Dhurungaum - - -	3 - -
Hire of two gins to Seevalall, kissonas of Paldee - - -	42 - -
Repairs of gins belonging to ditto - ditto - - -	40 4 3
	<i>Rs.</i> 365 10 4

One gin of 20 saws, with the Khunner Agent, is included with those at the Factory.

— No. 4. —

(No. 1 of 1861.)

To W. A. Goldfinch, Esq., Collector of Dharwar.

III.
Bombay.Dharwar Cotton Gin Factory,
18 January 1861.

Sir,

I BEG to submit the half-yearly Report of the Cotton Gin Factory for the term ending the 30th November last.

2. The following is a summary of the amount and value of work done during the above period :—

	Rs.	a.	p.	Rs.	a.	p.
Value of 9 driving-wheels for 18-saw-gins, at 45 rupees per each - - - - -	405	-	-			
Value of 10 driving-wheels for 18-saw-gins, without straps, at 42 rupees each - - - - -	420	-	-			
Value of 9 driving-wheels for 10-saw-gins, at Rs. 36.8. per each - - - - -	328	8	-			
Value of 10 driving-wheels for 10-saw-gins, without straps, at 34 rupees per each - - - - -	340	-	-			
Value of repairs effected on old gins - - - - -	560	15	5			
Value of dead stock tools made for the use of the factory - - - - -	36	4	-			
Value of articles made and supplied to the branch factories of Judug and Kurujghee - - - - -	548	11	9			
Value of work done in altering and renewing an English bellows - - - - -	10	8	-			
Value of repairs done on carts carting timber for the factory - - - - -	4	8	-			
				2,654	7	2
<i>Deduct.</i>						
Cost of materials - - - - -	1,016	3	10			
Cost of establishment - - - - -	1,491	7	1			
				2,507	10	11
Balance in favour of the Factory - - - - -			Rs.	146	12	3

3. No new gins were constructed during the half year under report, but of those previously constructed, eight were sold, viz. two of 18 saws, and six of 10 saws.

4. The construction of driving-wheels, intended for the cast-iron gins expected from England, chiefly occupied the factory during the above period, in which 38 of these wheels were completed.

5. Orders for gins are being received, accompanied as usual with a deposit of 20 rupees for an 18-saw-gin, and 10 rupees for one of 10 saws. There are at present 75 orders on register. The people fully understand that they are to be supplied out of machines to come from England.

6. I beg to take this opportunity to notice the failure which attended the sowing in these districts last season of a supply of 378 lbs. of fresh American cotton-seed, which Dr. Forbes forwarded to me from Bombay. The failure is attributable to the condition of the seed itself, which it would appear had lost its germinating property. When dug up out of the ground, it was found in every instance to have become rotten.

7. In the last report I noticed the new branch factory at Gudug, at which work had then just commenced. Since that, travelling parties of workmen, to effect the minor repairs of gins, have been distributed into the districts brought under it, and in this, as in other respects, operations have been carried on according to the plan followed by the Kurujghee Branch Factory.

8. The number of gins the Gudug Branch Factory has to attend to amounts to 100, out of which, during the period under notice, 14 were received for repair, and disposed of at the branch factory.

9. This branch factory, as was anticipated in the last report, is supported by contribution from gin owners; the amount of contribution for each gin being 10 rupees per year.

10. The funds, of which the greater part has been collected, will amount to 1,000 rupees. The expenditure, from the commencement of work up to the end of the half year under report, a period of five months, amounted to Rs. 393. 15. 6. There is, therefore, the sum of Rs. 707. 0. 6. to meet the expenses of the remainder seven months out of the twelve, and it will quite suffice.

III.
Bombay.

11. With regard to the branch factory at Kurujghy, the following statement exhibits the amount of work done at it during the half year under report :—

Number of gins of 20 saws repaired	-	-	-	-	-	-	-	-	1
Ditto - - - 19 - ditto	-	-	-	-	-	-	-	-	1
Ditto - - - 18 - ditto	-	-	-	-	-	-	-	-	12
Ditto - - - 14 - ditto	-	-	-	-	-	-	-	-	1
Ditto - - - 10 - ditto	-	-	-	-	-	-	-	-	35
Ditto - - - 8 - ditto	-	-	-	-	-	-	-	-	1
Gins of 18 saws in which the inferior saws used in the absence of a better article were replaced by other saws	-	-	-	-	-	-	-	-	13
Gins of 10 saws in which the inferior saws used in the absence of a better article were replaced by other saws	-	-	-	-	-	-	-	-	8

12. The gins in which a substitution of saws was made, as shown in the above summary, were part of 50 gins issued from the Dharwar factory since November 1859, which, as the new supply of saws had not arrived in time, the description of articles available at the factory, which was very inferior, was made use of.

13. Since the date of the last report, an addition has been made to the extent of district that had been brought under the branch factory, by which an addition of 70 gins has been made to the number it had to attend to before. The total number of gins the branch factory has now under its care amounts to 443.

14. By far the greater part of the cotton districts of the Dharwar Zilla now enjoy the benefit of one or other of the two branch factories. Of the places not included in the town of Hoobly, and the village of Heblee, are the only ones which remain to be attended to by the Dharwar Factory. The others are more conveniently situated with regard to the branch factories, and will gradually come to depend upon them in the same manner as the places that subscribe towards them for the repair of their gins.

15. Owing to the very large amount of work the branch factory had to attend to during the past year, in which no less than 93 gins underwent repair at the branch factory alone, and some of the older gins some radical alterations too, at the same time, the amount of contribution money on account of repairs proved insufficient for the expenses.

16. Had there been no other resource, every gin-owner, according to previous understanding, should have had to pay a further contribution on account of repairs. But this became unnecessary, both as there was a surplus out of the money collected originally to build the branch factory, and afterwards to make some necessary additions to the building, which was brought to the credit of the gin repair fund; and, also, as a collection was afterwards made from those gin owners, who before had not to pay towards the building of the branch factory. The rate of collection for each gin was 10 rupees, according to precedent.

17. The state of the funds of the branch factory now is such, that there will be a considerable surplus after the end of 12 months from the date on which the branch factory commenced to be supported by contribution, viz., the 24th February last.

18. The following statement exhibits the receipts and expenditure of the branch factory up to the end of last month :—

	Rs.	a.	p.	Rs.	a.	p.
Amount collected as contribution on account of repairs	3,075	-	-			
Ditto, collected as on account of the building of the branch factory, and brought to the credit of the gin repair fund	2,816	6	5			
				5,891	6	5
The expenditure amounted to				3,959	-	3
Deducting the latter amount from the former, it leaves a balance of				1,932	6	2

for expenses after the 1st of this month.

I have, &c.

C. M. Courpalais,

Mechanical Superintendent in charge
Cotton Gin Factory.

STATEMENT, No. 8.

COTTON PLANTERS' REPORT from 1 June to 30 November 1860, in the Dharwar Collectorate.

TOTAL.	Remarks on the past Season, as how far anticipations regarding the Crop and its disposal, were realised.	Supposed proportion of the last Year's Crop, which has been cleaned in the Saw-gins, or will be cleaned.				G I N S.		
		New Orleans	Broach.	Total, Foreign.	Country Cotton.	For Sale.	In Use.	
		Candies of 784 lbs. each.	Candies of 784 lbs. each.	Candies of 784 lbs. each.	Candies of 784 lbs. each.	Belonging to Government, in the Factory.	Belonging to Private Individuals.	
		3.	4.	5.	6.	Number and Size of Gins.	Number and Size of Gins.	Talooks.
1.	2.	3.	4.	5.	6.	7.	8.	9.
	Season was favourable, and anticipations about the yield of the crop were nearly realised.	35,891 candies and 160 lbs.	- -	35,891 candies and 160 lbs.	10,612 candies and 338 lbs.	3 gins of 20 saws each - 1 ditto 18 - ditto. 2 ditto 10 - ditto. 2 ditto 4 - ditto. 1 cotton thrasher. 1 Egyptian churka. 2 roller gins. 2 Macarthy gins.	6 gins of 40 saws each 2 ditto 25 - ditto. 1 ditto 24 - ditto. 13 ditto 20 - ditto. 1 ditto 19 - ditto. 281 ditto 18 - ditto. 1 ditto 15 - ditto. 8 ditto 14 - ditto. 3 ditto 13 - ditto. 230 ditto 10 - ditto. 87 ditto 8 - ditto. 144 ditto 7 - ditto.	Unable to state, as the gins are constantly removed about, from one talooka to another, and often into the adjacent Madras districts and Enam villages, according to the requirements of the owners.
						14	777	

G I N S—continued.

Out of use.		Completed in the present Half-year.		Being made			Sold for Government during the Half-year under Report.	
Belonging to Private Individuals.		Belonging to Government.		For Government.	For Private Individuals.		No. and Size of Gins.	At what Cost.
No. and Size of Gins.	Talooks.	No. and Size of Gins.	Value.	No. and Size of Machines.	Number.	Size of Gins.		
10.	11.	12.	13.	14.	15.	16.	17.	18.
None I am aware of -	None -	- - -	-	1 cotton cleaning machine - 26 roller churkas. 1 gin frame of 10 saw gins. 20 driving wheels and wheel frame for 18-saw gin. 20 driving wheels and wheel frame for 10 do. do. 3 driving wheels and wheel frame for 10 do. do.	None -	- - -	2 gins of 18 saws each 6 ditto 10 - ditto.	Rs. a. p. 340 - - 660 - - 1,000 - -
				71			8 Add, Value of repairs to saw gins, &c.	583 7 5 Rs. 1,583 7 5

Profit or loss to Government, deducting the Cost of European Superintendence.	Total net Expenses on account of Experiment, from the Commencement to the Close of the Half-year preceding that under Report.	Total Expenses for the Half-year under Report.	Prospects of the coming Season.
19.	20.	21.	22.
Net profit during the six months under report Rs. 146. 12. 3., as shown in the accompanying abstract statement of cost and return.	Rs. a. p. Total expenses - - 6,50,070 9 3 Ditto receipts - - 2,28,608 - 11 Balances - - Rs. 4,21,462 8 4	Rs. a. p. Total expenses - - 5,400 14 9 Ditto receipts - - 3,353 9 9 Balances - - - Rs. 2,047 5 -	

Dharwar Cotton Gin Factory,
18 January 1861.C. M. Courpalais,
Mechanical Superintendent in charge Cotton Gin Factory.

STATEMENT, No. 10.

DETAILED MEMORANDUM of Sums collected during each of the Six Months embraced in the Cotton Planter's Report for the Half-year commencing 1st June and ending 30th November 1860, for Gins sold, and Value of Repairs to Gins during that period; also for Repairs to Gins and Gins sold during the previous Half-year.

MONTHS.	Sums collected during the present Half-year for Gins sold prior to 1 June 1860.	Sums collected for Gins sold during the Half-year under Report.	Sums collected during the present Half-year for Repairs made prior to 1 June 1860.	Sums collected for Gins repaired during the Half-year under Report.	TOTAL.
	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>
June - 1860 - -	300 - -	- -	122 8 10	- 6 -	422 14 10
July " - -	- -	- -	331 10 6	- 15 6	332 10 -
August " - -	150 - -	550 - -	104 11 3	23 10 10	826 6 1
September " - -	- -	200 - -	404 2 4	75 1 8	679 4 -
October " - -	- -	- -	422 - 11	15 3 -	437 3 11
November " - -	- -	- -	5 1 7	22 11 -	27 12 7
TOTAL - - <i>Rs.</i>	450 - -	750 - -	1,390 3 5	130 - -	2,728 3 5

REMARKS.	—
	<i>Rs. a. p.</i>
Amount collected for sale and repair of Saw Gins in the six months under Report - - - -	2,728 3 5
Advances deposited for Gins to be disposed of - -	510 - -
Proceeds of the sale of two model carts - - -	78 15 1
Ditto of the sale of clean cotton and cotton seed -	20 14 10
Ditto of unserviceable wood pieces, &c. - -	10 13 3
Fine from artificers - - - - -	4 11 2
<i>Rs.</i>	3,353 9 9

Dharwar Cotton Gin Factory,
18 January 1861.

C. M. Courpalais,
Mechanical Superintendent in Charge,
Cotton Gin Factory.

STATEMENT, No. 11.

ABSTRACT STATEMENT, showing the Cost and Return of the COTTON GIN FACTORY, Dharwar Collectorate, from 1st June to 30th November 1860.

Cr.	Rs.	a.	p.	Rs.	a.	p.	Dr.	Rs.	a.	p.
By Value of 9 driving wheels, for 18-saw gins, with straps	-	-	-	405	-	-	To Cost of Establishment :	-	-	-
Ditto of 10 - ditto - for 18 ditto without straps	-	-	-	420	-	-	Salary of the fixed establishment, exclusive of the allowance to the European and Mechanical Superintendent	665	12	5
Ditto of 9 - ditto - for 10 ditto with straps	-	-	-	328	8	-	Batta to the fixed establishment, exclusive of that for ditto	4	5	-
Ditto of 10 - ditto - for 10 ditto without straps	-	-	-	340	-	-	Wages to the contingent establishment	821	5	8
" Value of repairs to saw gins -	-	-	-	-	-	-		1,491	7	1
" Value of articles, viz., bearings, bolts, &c., prepared and supplied to the branch factories of Kurulghy and Gudug -	-	-	-	-	-	-	Cost of Materials :	-	-	-
" Ditto of ditto - - - prepared on hand -	-	-	-	-	-	-	26 maunds 5 lbs. 4 oz. of round iron, of sizes, at Rs. 1. 14. and upwards, per maund of 28 lbs.	49	1	7
Deduct :	-	-	-	-	-	-	24 mds. 20 lbs. 5 ozs. of square iron, of sizes, at Rs. 1. 14. ditto	33	13	8
Value of articles, viz., bearings, bolts, &c., which were on hand at the close of the last half-year	830	12	9	548	11	9	2 " 20 " 11 of sheet iron, of sizes, at Rs. 1. 14. ditto	8	8	11
" Cost of repairing the leather, and otherwise repairing and altering an English bellows for the use of the factory	282	1	-	10	8	-	25 " 27 " 15 of plat iron, of sizes, at Rs. 1. 14. ditto	48	11	10
" Cost of repairing carts carting timber from Canara Jungle	-	-	-	4	8	-	2 " 2 " 5 " 3 of steel from old files, at Rs. 0. ditto	7	10	4
" Cost of tools and implements made for the use of the factory, viz., -	-	-	-	-	-	-	0 " 2 " 0 of English steel	-	10	-
4 chisels, carpenter	2	-	-	-	-	-	4 " 26 " 15 of old brass, at Rs. 14. per maund of 28 lbs.	69	7	6
7 screw drivers	3	8	-	-	-	-	18 " 6 " 2 of zinc, at Rs. 3. 8. and upwards, ditto	63	13	2
8 cold chisels	2	-	-	-	-	-	of iron, from broken barrels, at 11 annas, and upwards, per maund of 28 lbs.	48	14	8
2 tongs, smith	1	2	-	-	-	-	7 He buffalo skins, at Rs. 2. 8. per each	9	7	4
15 drills for braces	1	14	-	-	-	-	18 She - ditto - at 2. 0. ditto	36	-	-
7 plyers	5	4	-	-	-	-	1 Bullock skin	1	12	-
2 poker	7	-	-	-	-	-	46 Circular saws, of 10-inch, at Rs. 1. 2. 4. per each	52	11	4
1 poker for saw mould	2	4	-	-	-	-	296½ Puras of charcoal, at puras 8 per rupee	37	1	-
5 dils -	6	-	-	-	-	-	4 lbs. 8 oz. of bristles, at Rs. 3. 12. per lb.	16	14	-
6 taps -	1	6	-	-	-	-	1 lb. 1½ oz. of brass wire, at one rupee per lb.	1	1	6
1 plane blade	8	-	-	-	-	-	47½ Horny logs, measuring 736 cubic feet, 3½ inches, at four annas and upwards per foot	184	1	1
6 screw bolts for turning lathe	3	7	-	-	-	-	12 Mudy logs, measuring 21½ caudies, at five rupees per candy	106	4	-
2 adzes for a branch factory, Kurulghy	5	8	-	-	-	-	4 Baubool blocks	3	-	-
1 stamp for marking skins	1	-	-	-	-	-	Ware and tare on 36 files, weighing 31½ lbs., at 12 rupees per lb.	23	7	9
3 scythes for carts carting timber	1	-	-	-	-	-		869	15	9
	-	-	-	36	4	-	Cost of Sundry Expenses :	-	-	-
	-	-	-	-	-	-	June - 1860	24	1	9
	-	-	-	-	-	-	July	16	2	3
	-	-	-	-	-	-	August	28	2	5
	-	-	-	-	-	-	September	19	-	1
	-	-	-	-	-	-	October	35	6	11
	-	-	-	-	-	-	November	23	6	9
	-	-	-	-	-	-		146	4	2
	-	-	-	-	-	-	To Profit to Government for the Half-year	-	-	-
	-	-	-	599	15	9		-	-	-
	-	-	-	2,654	7	2		-	-	-
	-	-	-	-	-	-		Rs.	2,654	7 2

STATEMENT No. 12.

DETAILED MEMORANDUM of the Number, Size, and Value of Gins made and sold during the Half-year ending 30th November 1860, and Balance of Cotton Machines in Store.

	MACHINES.																	
	Gins of 20 Saws.		Gins of 18 Saws.			Gins of 10 Saws.			Gins of 4 Saws.		Cotton Thrasher.		Egyptian Churka.		Roller Gin.		Macarthy Gin.	
	Number.	Value.	Number.	Value.	Value Recovered.	Number.	Value.	Value Recovered.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
		<i>Rs.</i>		<i>Rs.</i>	<i>Rs.</i>		<i>Rs.</i>	<i>Rs.</i>		<i>Rs.</i>		<i>Rs.</i>		<i>Rs.</i>		<i>Rs.</i>		<i>Rs.</i>
Number which were on hand at the close of the last half-year - -	3	-	3	-	- - -	8	-	- - -	2	-	1	-	1	-	2	-	2	-
Number completed during the present half-year - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL - -	3	-	3	-	- - -	8	-	- - -	2	-	1	-	1	-	2	-	2	-
Deduct :																		
Number sold in the present half-year - -	-	-	2	340	150	6	660	600	-	-	-	-	-	-	-	-	-	-
Balance of Cotton Machines on hand, except those being made - -	3	-	1	-	- - -	2	-	- - -	2	-	1	-	1	-	2	-	2	-

Dharwar Cotton Gin Factory,
18 January 1861.

C. M. Courpalais,
Mechanical Superintendent, in charge Cotton Gin Factory.

STATEMENT No. 13.

STATEMENT of Gins sold during the Half-year ending 30th November 1860.

MONTHS.	DESCRIPTION OF GINS.				TOTAL.	
	Of Saws 18 each.		Of Saws 10 each.			
	No.	Amount.	No.	Amount.	No.	Amount.
		Rs. a. p.		Rs. a. p.		Rs. a. p.
June - 1860 - -	1	170 - -	4	440 - -	5	610 - -
July " - -	-	- - -	1	110 - -	1	110 - -
August " - -	-	-	-	-	-	-
September " - -	-	- - -	1	110 - -	1	110 - -
October " - -	-	-	-	-	-	-
November " - -	1	170 - -	-	- - -	1	170 - -
TOTAL - - -	2	340 - -	6	660 - -	8	1,000 - -

Dharwar Cotton Gin Factory,
18 January 1861.

C. M. Courpalais,
Mechanical Superintendent, in charge Cotton Gin Factory.

STATEMENT No. 14.

STATEMENT showing the Number of CARTS Made and Sold under the authority of the Government Resolution, No. 4597, dated 8th August 1853, received with the Revenue Commissioner's (Southern Division) Memorandum, No. 2126, dated 11th August 1853, during the Half-year ending the 30th November 1859, in the Dharwar Collectorate.

Number of Carts authorized to be constructed by Government Resolution, No. 4597, dated 8th August 1853.	Number out of them constructed up to the Half-year ending 31st May 1860.		Number sold up to the Half-year ending 31st May 1860.		Number of Carts constructed during the Half-year under Report.		Number of Carts sold during the Half-year under Report.		Balance remaining on hand at close of the Half-year under Report.		Number of Carts being made at the close of the Half-year under Report.	
	No.	At what Cost.	No.	At what Price.	No.	At what Cost.	No.	At what Price.	No.	Value.	No.	Cost.
		<i>Rs. a. p.</i>		<i>Rs. a. p.</i>		<i>Rs. a. p.</i>		<i>Rs. a. p.</i>		<i>Rs. a. p.</i>		<i>Rs. a. p.</i>
50	23	987 8 10	23	833 6 11	2	78 15 1	2	78 15 1	-	-	-	-

Dharwar Cotton Gin Factory, 18 January 1861.

C. M. Courpalais,
Mechanical Superintendent, in charge Cotton Gin Factory.

STATEMENT No. 15.

MEMORANDUM showing the Names of the Purchasers of CARTS Sold, and the District to which they pertain, called for in the Revenue Commissioner's (Southern Division) Letter, No. 2817, of 7th September 1856, paragraph 2.

Number of Carts Sold.	Names of the Purchasers of Carts, and the District to which they pertain.
2	Cotton Gin Factory, Dharwar, for carting Timber from the Canara Jungle.
2	

Dharwar Cotton Gin Factory,
18 January 1861.

C. M. Courpalais,
Mechanical Superintendent, in charge
Cotton Gin Factory.

— No. 5. —

III.
Bombay.

From the Political Superintendent, Kolhapoor.

(No. 231 of 1861.)—Political Department.

THE enclosed Return of Cotton is forwarded to A. D. Robertson, Esq., Acting Secretary to Government, Territorial Department, Revenue, with reference to Mr. Secretary Goldsmid's endorsement, No. 914, dated 16th February 1854, on a letter of the same date to the Bombay Chamber of Commerce.

Kolhapoor, Political Superintendent's Office,
13 March 1861.

W. H. Havelock,
Political Superintendent.

RETURN showing the Extent of Land in the Kolhapoor Territory cultivated with, and its Produce in, Indigenous and Exotic Cotton.

Season.	District.	Land Cultivated.			Uncleaned Cotton produced.			Yield of Cleaned Cotton.			Local Consumption.	Exported.
		Native.	Exotic.	Total.	Native.	Exotic.	Total.	Native.	Exotic.	Total.	Candies	Candies
		Acrea. Goontas.	Acrea. Goontas.	Acrea. Goontas.	Candies. Lbs.	Candies. Lbs.	Candies. Lbs.	Candies. Lbs.	Candies. Lbs.	Candies. Lbs.	of 784 lbs.	of 784 lbs.
1859-60	Kolhapoor Territory.	7,103 39½	- -	7,103 39½	1,450 401	- -	1,450 401	362 288	- -	362 288	¾th of the Produce.	¾th of the Produce.
1858-59		6,789 25½	- -	6,789 25½	1,431 576	- -	1,431 576	359 678	- -	359 678		

Rate of Assessment per Acre.	Cost of Cultivation per Acre.	Mode and Cost of Cleaning.	Average Price of Cleaned Cotton per Candy of 784 lbs.	Expense of Transit to Bombay.	Extent of Land capable of producing Cotton in Acres.
The land cultivated with cotton is assessed at from 4 to 19 rupees per acre.	The cost of cultivating one acre of land with cotton is supposed to be from 11 to 12 rupees.	The cotton cleaner, generally a woman, sits on a low stool, with a smooth flat stone on the ground before her. Before this stone a rather thin iron roller is placed. The roller projects beyond the stone, on either side, and on the projecting portions two wooden soles (as of shoes) are placed. The feet of the cleaner are placed upon these soles, and rapidly pushed backwards and forwards simultaneously, which communicates a rotary motion to the iron roller. The cleaner, assuming a sloping posture, feeds the roller from the front with the cotton, which is, by the action of the roller, drawn under it towards the cleaner, while the seeds are separated and ejected by the roller in front. This mode of cleaning is called "Wutna." A woman cleans about 10 lbs. per day. The cotton goes through another cleaning, in being whipped by a bow-string upon an instrument called "Kuman." By this mode about 40 lbs. may be cleaned by one person in a day. The cost of cleaning cotton is Rs. 12½ per candy, or 784 lbs., or 3 pies per 1 lb.	Cleaned cotton is sold at 4½ pukka aces, or 9½ lbs. per one rupee, which gives a total value of one candy at Rs. 84. 12. 1.	The cost of exporting one candy of cotton to Bombay, via Rajapur, is Rs. 10, or mid Poona amounts to about Rs. 18.	The total amount of land capable of producing cotton is 9,600 acres.

Kolhapoor, Political Superintendent's Office,
13 March 1861.

W. H. Havelock,
Political Superintendent.

— No. 6. —

(No. 705 of 1861.)

COTTON RETURNS for the Collectorates of the Northern Division for the Season 1860-61, as contrasted with 1859-60.

EXTENT CULTIVATED.																																					
COLLECTORATES.	1.	S E A S O N.	2.	Extent of Land capable of producing Cotton.	3.	Consisting of							Total Extent of Cotton Cultivation. 10.																								
						Government Land.	Inam Land.	Indigenous Cotton.		Exotic Cotton.																											
								Government Land.	Inam Land.	Government Land.	Inam Land.																										
												6.		7.	8.	9.																					
Ahmedabad	{	Acres	{	{	{	1,34,602 26 0	35,037 24 0	1,34,602 26 0	35,006 6 0	-	-	31 18 0	1,69,640 10 0																								
														1859-60	2,78,019 39 0	91,717 9 0	35,533 18 0	91,680 15 0	35,500 15 0	36 34 0	33 3 0	1,27,250 27 0															
																							{	{	{	{	{	{	{	{							
																															1860-61	{	{	{	{	{	{
Kaira	{	Bigas	{	{	{	10,290 9 15	6,191 12 15	10,290 9 15	6,191 12 15	-	-	-	16,482 2 10																								
														1859-60	5,94,451 12 9½	9,961 19 0	5,973 11 10	9,961 19 0	5,973 11 10	-	-	-	15,935 10 10														
																								{	{	{	{	{	{	{	{						
																																1860-61	{	{	{	{	{
Broach	{	Acres	{	{	{	1,40,151 0 0	57,235 0 0	1,40,151 0 0	57,235 0 0	-	-	-	1,97,386 0 0																								
														1859-60	4,64,186	1,30,241 0 0	57,822 0 0	1,30,241 0 0	57,822 0 0	-	-	-	1,88,063 0 0														
																								{	{	{	{	{	{	{	{						
																																1860-61	{	{	{	{	{
Surat	{	Acres	{	{	{	30,375 13 4	10,609 0 4	30,375 13 4	10,609 0 4	-	-	-	40,984 13 8																								
														1859-60	1,68,638 39 15	36,391 23 6	13,236 7 8	36,391 23 6	13,236 7 8	-	-	-	4,96,237 30 14														
																								{	{	{	{	{	{	{	{						
																																1860-61	{	{	{	{	{
Khandeish	{	Bigas	{	{	{	2,50,506 8 5	22,634 17 0	2,50,506 8 5	22,634 17 0	-	-	-	2,73,141 5 5																								
														1859-60	20,83,184 12 5	2,76,710 8 15	24,678 17 5	2,76,695 9 0	24,678 17 5	14 19 15	-	-	3,01,889 6 0														
																								{	{	{	{	{	{	{	{						
																																1860-61	{	{	{	{	{
Khandeish	{	1860-61	{	{	{	26,204 0 10	2,044 0 5	26,189 0 15	2,044 0 5	14 19 15	-	-	28,248 - 15																								
														{	{	{	{	{	{	{	{	{	{	{	{												
																										{	{	{	{	{	{	{	{	{	{	{	{

COTTON RETURNS for the Collectorates of the Northern Division for the Season 1860-61, as contrasted with 1859-60—continued.

COLLECTORATES.	S E A S O N.	Uncleaned Cotton produced in Candies of 784 lbs.			Yield of Cleaned Cotton in Candies of 784 lbs.			Local Consumption.		Exported.	
		Indigenous. 11.	Exotic. 12.	Total. 13.	Indigenous. 14.	Exotic. 15.	Total. 16.	Indigenous (in Candies of 784 lbs.) 17.	Exotic (in Candies of 784 lbs.) 18.	Indigenous (in Candies of 784 lbs.) 19.	Exotic (in Candies of 784 lbs.) 20.
Ahmedabad -	Acres { 1860-61 -	43,571	1 24	43,572 43	10,769 42	0 267	10,769 309	1,355 151½	0 267	9,413 674½	—
	{ 1859-60 -	35,761	10 165	35,771 562	9,124 247½	3 316	9,127 563½	1,433 108½	-	7,691 139	3 316
	1860-61 { Increase -	7,809	-	7,800 275	1,644 578½	-	1,641 529½	-	0 267	1,722 533½	—
	{ Decrease -	-	9 141	-	-	3 49	-	77 741	-	-	3 316
Kaira -	Bigas { 1860-61 -	4,025	-	4,025 143	1,013 289½	-	1,013 289½	1,013 289½	—	—	—
	{ 1859-60 -	3,808	-	3,808 72½	966 340	-	966 340	966 340	—	—	—
	1860-61 { Increase -	217	-	217 70½	46 733½	-	46 733½	46 733½	—	—	—
	{ Decrease -	—	—	—	—	—	—	—	—	—	—
Broach -	Acres { 1860-61 -	58,796	0	58,796 0	17 934	-	17 934	1 498	-	16 436	—
	{ 1859-60 -	53,019	0	53,019 0	16 416	-	16 416	1 203	-	15,213	—
	1860-61 { Increase -	5,777	0	5,777 -	1 518	-	1 518	0 295	-	1 223	—
	{ Decrease -	—	—	—	—	—	—	—	—	—	—
Surat -	Acres { 1860-61 -	13,599	354 8	13,599 354 8	4,603 607 4	-	4,603 607 4	1,882 704 0	-	2,720 687 4	—
	{ 1859-60 -	17,352	6 4	17,352 6 4	5,715 36 4	-	5,715 36 4	1,926 544 12	-	3,788 275 8	—
	1860-61 { Increase -	-	-	-	1,111 213 0	—	1,111 213 0	43 624 12	—	1,067 372 4	—
	{ Decrease -	3,752	435 12	3,752 435 12	—	-	—	—	-	—	—
Khandeish -	Bigas { 1860-61 -	33,512	159½	33,512 159½	8,694 87½	-	8,694 87½	2,091 498½	-	6,602 373½	—
	{ 1859-60 -	52,428	534½	52,433 211½	13,804 114½	1 115½	13,805 230	4,080 302½	0 449½	9,723 596	0 449½
	1860-61 { Increase -	-	—	—	5,110 27	—	5,111 142½	1,988 588½	—	3,121 222½	—
	{ Decrease -	18,916	375½	18,921 52½	—	1 115½	—	—	0 449½	—	0 449½

(continued)

(continued)

COTTON RETURNS for the Collectories of the Northern Division for the Season 1860-61, as contrasted with 1859-60—continued.

COLLECTORATES.	SEASON.	Gross Revenue of Government Land.	Deduct Remission in Government Land.	Remainder, Government Revenue.	Rate of Assessment.	Cost of Cultivation.	Cost of Cleaning.	Average Price of Cleaned Cotton per Candy of 784 lbs.	Expense of Transit per Candy of 784 lbs.	REMARKS.
		21.	22.	23.	24.	25.	26.	27.	28.	29.
Ahmedabad	Acres	1860-61 - 1859-60 -	- -	2,75,164 18 8 2,55,132 13 3	- -	- -	- -	- -	- -	
	1860-61 { Increase - Decrease -	- - -	- - -	20,031 13 5 - -	- - -	- - -	- - -	- - -	- - -	
	Bigas	1860-61 - 1859-60 -	- -	27,520 7 7 26,795 4 8	- -	- -	- -	- -	- -	
Kaira	1860-61 { Increase - Decrease -	- - -	- - -	725 2 11 - -	- - -	- - -	- - -	- - -	- - -	
	Acres	1860-61 - 1859-60 -	- -	18,30,789 14 0 17,41,321 1 10	- -	- -	- -	- -	- -	
	1860-61 { Increase - Decrease -	- - -	- - -	89,448 12 2 - -	- - -	- - -	- - -	- - -	- - -	
Broach	Acres	1860-61 - 1859-60 -	- -	1,49,107 2 10 1,73,272 3 2	- -	- -	- -	- -	- -	
	1860-61 { Increase - Decrease -	- - -	- - -	24,165 0 4 - -	- - -	- - -	- - -	- - -	- - -	
	Bigas	1860-61 - 1859-60 -	- -	2,36,271 5 2 2,75,555 15 1	- -	- -	- -	- -	- -	
Surat	1860-61 { Increase - Decrease -	- - -	- - -	39,284 9 11 - -	- - -	- - -	- - -	- - -	- - -	
	Acres	1860-61 - 1859-60 -	- -	2,75,164 18 8 2,55,132 13 3	- -	- -	- -	- -	- -	
	1860-61 { Increase - Decrease -	- - -	- - -	20,031 13 5 - -	- - -	- - -	- - -	- - -	- - -	
Khandeish	Bigas	1860-61 - 1859-60 -	- -	27,520 7 7 26,795 4 8	- -	- -	- -	- -	- -	
	1860-61 { Increase - Decrease -	- - -	- - -	725 2 11 - -	- - -	- - -	- - -	- - -	- - -	
	Acres	1860-61 - 1859-60 -	- -	18,30,789 14 0 17,41,321 1 10	- -	- -	- -	- -	- -	
Khandeish	1860-61 { Increase - Decrease -	- - -	- - -	89,448 12 2 - -	- - -	- - -	- - -	- - -	- - -	
	Acres	1860-61 - 1859-60 -	- -	1,49,107 2 10 1,73,272 3 2	- -	- -	- -	- -	- -	
	1860-61 { Increase - Decrease -	- - -	- - -	24,165 0 4 - -	- - -	- - -	- - -	- - -	- - -	
Khandeish	Bigas	1860-61 - 1859-60 -	- -	2,36,271 5 2 2,75,555 15 1	- -	- -	- -	- -	- -	
	1860-61 { Increase - Decrease -	- - -	- - -	39,284 9 11 - -	- - -	- - -	- - -	- - -	- - -	
	Acres	1860-61 - 1859-60 -	- -	2,75,164 18 8 2,55,132 13 3	- -	- -	- -	- -	- -	
	1860-61 { Increase - Decrease -	- - -	- - -	20,031 13 5 - -	- - -	- - -	- - -	- - -	- - -	

Revenue Commissioner's Office, Bombay,
16 April 1861.

To the Acting Secretary to Government, Bombay.

A. D. Robertson,
For Revenue Commissioner, N.D.

— No. 7. —

III.
Bombay.

(No. 37 of 1861.)

From *H. Brooke*, Esq., Secretary to the Chamber of Commerce, to
A. D. Robertson, Esq., Chief Secretary to Government, Revenue Department, Bombay.

Bombay Chamber of Commerce,
 6 April 1861.

Sir,

By direction of the Committee of the Chamber of Commerce, I have the honour to acknowledge receipt of your letter No. 1212 of 1861, dated 13th March,* with reference to the resolution of Government on the supply of Indian cotton to England, in which it is suggested that a member of the Chamber should accompany the Commission appointed to inspect and report on the roads, &c., in the cotton districts.

* Simply forwarding Resolution of the Government of India, 28 February 1861.

2. I have now the honour to inform you that Mr. W. C. Sillar has kindly consented to represent the Chamber on the tour in question, and the committee will feel therefore obliged if you will intimate to him the route of the proposed tour, and the names of the gentlemen of whom it will be composed, in order that they may convey their views to Mr. W. C. Sillar with the least possible delay.

I have, &c.

H. Brooke, Secretary.

— No. 8. —

From *W. C. Sillar*, Esq., Representative of the Chamber of Commerce in the proposed Commission to the Cotton Districts, to Colonel *Scott*, Chief Engineer, Bombay.

Sir,

I BEG leave to submit the following proposition, with a view to obtaining correct information regarding the produce of the cotton districts and the difficulties in the way of its conveyance to Bombay, viz. :—

2. That an actual transaction be entered into in each of the districts which I shall be called upon to visit, the particulars of which, from its commencement to its close, shall be under the superintendence of the chief Government officer of the district, and these particulars, carefully noted, to stand as an authentic Government record.

3. Of course the Government would not of itself engage in such a transaction, but as a merchant, I shall be happy to take the risk of the operation upon myself, and be content if I can lay down the cotton in Bombay at the current rates ruling there.

4. As it would be entered into with this view and without the expectation of any profit, I should like to have the benefit of the Government servants and establishments, so that the record might be a perfectly trustworthy one.

5. The record would consist of facts only, such as—

1. The price of the cotton.
2. The usual allowances made by the seller.
3. The expense of preparing for transit.
4. The cost of and time occupied in every individual section of the road.
5. A record of any mishaps to it on the way, owing to defective roads, nullahs, or other causes.
6. The actual weight at the commencement of the journey.
7. The actual weight at its close.
8. Its value in the Bombay market.
9. Its value in Manchester, ascertained by sample sent, or by bulk.
10. A general report of its fitness for manufacturing purposes as a substitute for American cotton.

III.
Bombay.

6. To render all these reliable, it would be requisite that a trustworthy man accompanied it on its way, to guard against substitution or robbery.

7. This would be the more necessary, as I should as much as possible select the finer qualities of cotton for this trial.

8. I should like to have the assistance of the Government treasuries at the districts, and for any sums I should require to draw therefrom, I shall previously give in Bombay approved security.

9. In submitting this proposition, I shall only add that, in my opinion, an authentic record of a real transaction, especially in such a matter as the 4th clause of paragraph No. 5, viz., the time occupied in traversing each stage of the road, and the expense of it, would be a most practical guide to assist in devising means for lessening both of these.

I have, &c.

W. C. Sillar.

Bombay, 8 April 1861.

— No. 9. —

(No. 1977 of 1861.)—Revenue Department.

To Captain W. C. Anderson, Superintendent Revenue Survey and Assessment, Southern Mahratta Country and Berar.

Sir,

THE Government of India having had under their consideration the possibility of a greatly and suddenly increased demand for Indian cotton in England, have directed the attention of each local Government within the territories of which cotton producing and cotton exporting districts lie to certain measures, whereby the power of India to meet such increased demand for cotton may be augmented by the help of Government.

* Dated 28 Feb.
1861.

2. A copy of the resolution* of the Government of India, communicated to this Government on the subject, is annexed, and you will observe that with a view to the improvement of the lines of traffic between the cotton producing districts and the ports of shipment, it is the desire of the Government of India that measures be at once taken to have such lines of traffic examined and reported on by a competent officer.

† Dated 13 March
1861.

3. The Government of India were informed by telegram† that this Government proposed deputing you to inspect the districts to the south, and would endeavour to secure a mercantile gentleman to co-operate; and, in reply to a reference made to the Chamber of Commerce, it has been intimated to Government that Mr. W. C. Sillar has consented to represent the Chamber on the proposed tour.

4. Government, however, considering that you had sufficient work at present to occupy fully your time, have accepted an offer made by Mr. Sillar, in a letter dated the 8th instant, of which a copy is also annexed, and I am desirous to request your good offices in furtherance of the object of Mr. Sillar's inquiries and experiments.

5. Mr. Sillar, Government have been informed, proposes in the first place to take the rail as far as the Seena river; thence he goes to Barsi, in the direction of Oomrawutti, and then turning west, will come down through Boorashapoor and the Candish cotton districts.

6. The Resident at Hyderabad has been asked to extend his aid and assistance, and a circular has been issued to the collectors of this Presidency to afford Mr. Sillar every assistance in the prosecution of the object he has in view, and to issue the necessary instructions on the subject to the officers subordinate to them.

I have, &c.

M. J. Shaw Stewart,

Under Secretary to Government.

Bombay Castle, 25 April 1861.

— No. 10. —

CIRCULAR.

III.
Bombay.

No. 1978 of 1861.—Revenue Department.

To the Collector of

Sir,

I AM directed to forward to you a copy of the papers noted in the margin,* regarding an offer made by Mr. W. C. Sillar, a merchant of this city, to proceed on a tour for the purpose of obtaining correct information, and reporting on the subject of the produce of the cotton growing districts, and the difficulties in the way of its conveyance to Bombay, and to request that you will have the goodness to afford that gentleman every assistance in the prosecution of the object he has in view, and issue instructions on the subject to the officers subordinate to you.

I have, &c.

M. J. Shaw Stewart,

Under Secretary to Government.

Bombay Castle,
25 April 1861.

— No. 11. —

No. 1979 of 1861.—Revenue Department.

To Colonel *C. Davidson*, Resident at Hyderabad.

Sir,

WITH reference to the resolution of the Government of India of the 28th February last,† I am directed to enclose copies of letters as noted in the margin,‡ and to request that you will extend to Mr. Sillar such aid and assistance as he may stand in need of.

2. A copy of this letter has been sent to Captain Cowper.

I have, &c.

M. J. Shaw Stewart,

Under Secretary to Government.

Bombay Castle,
25 April 1861.

No. 1980.—Revenue Department.

COPY to the Commissioner Berar.

I have, &c.

M. J. Shaw Stewart,

Under Secretary to Government.

Bombay Castle,
25 April 1861.

— No. 12. —

No. 2110 of 1861.—Revenue Department.

To *W. C. Sillar*, Esq., Post Office, Sholapoor.

Sir,

I AM directed by His Excellency the Governor in Council to forward, for your information, copies of a letter from the Resident at Hyderabad, No. 650, dated 29th ultimo, and of its accompaniments, in regard to affording you such assistance

* Letter from Mr. W. C. Sillar, dated 8 April 1861.

Government Letter to Captain W. C. Anderson, No. 1977, dated 25 April 1861.

† Regarding the supply of Indian cotton to England (copy also forwarded by the Government of India to the Resident at Hyderabad).

‡ From Mr. Sillar, dated 8 April 1861.

To Captain Anderson, No. 1977, dated 25 April 1861.

To Collectors, No. 1978, dated 25 April 1861.

III.
Bombay.

ance as you may require on your arrival in the Berar districts, and to the cultivation, &c. of cotton in the Hyderabad Assigned Districts.

Bombay Castle,
2 May 1861.

I have, &c.
M. J. Shaw Stewart,
Under Secretary to Government.

Enclosure 1, in No. 12.

(No. 650 of 1861.)

Major Cowper is
at present at
Booldanah, about
5 miles due north-
west from Soul-
nah.

Civil Department.

From Lieutenant Colonel *Cuthbert Davidson*, c.b., Resident at Hyderabad, to the Under Secretary to Government, Revenue Department, Bombay, dated Hyderabad, 29 April 1861.

Sir,

I HAVE the honour to acknowledge the receipt of your letter, No. 1979, of the 25th instant, and of its enclosures, and to forward for your information copy of one this day addressed to the Commissioner of the Hyderabad Assigned Districts in regard to affording Mr. Sillar such assistance as he may require on his arrival in the Berar districts.

2. I take this opportunity of enclosing copy of a paper of queries received from the Manchester Cotton Supply Association, and of the reply sent thereto relative to the cultivation, &c. of cotton in the Hyderabad Assigned Districts.

I have, &c.
C. Davidson, Resident.

Enclosure 2, in No. 12.

General, No. 649 of 1861.—Department No. 153.

To Major *F. A. Cowper*, Commissioner Hyderabad Assigned Districts.

Civil Department,
Financial.

Sir,

Hyderabad Residency, 29 April 1861.

WITH reference to a letter, No. 1979, dated the 25th instant, from the Under Secretary to the Government of Bombay to the address of the Resident, and to its enclosures, a copy of which has been forwarded to you direct by that authority, I am directed by Colonel Davidson to request that you will cause every assistance to be rendered to Mr. Sillar in obtaining the information he requires regarding the produce, &c. of cotton in the Berar districts.

I have, &c.
Hastings Fraser,
Officiating 1st Assistant Resident.

For the Under Secretary to Government, Bombay.

Enclosure 3, in No. 12.

Cotton Supply Association, Office, No. 1, Newall's Buildings,
Manchester, December 1859.

PROPOSED QUERIES.

1. Is the cotton plant cultivated in your district?
2. What are the varieties?
3. If the American variety grows in your district, when was it first introduced, and has its cultivation increased or fallen off?
4. Can you give the statistics, *i. e.*, the number of acres cultivated, and the annual amount of produce; also the yield per acre?
5. Is it your opinion that the American plant in your district deteriorates in quality and staple each year, when preserved from admixture with other varieties?
6. What is the peculiar nature of the soil and climate?
7. Is irrigation employed in cultivation? If not, would irrigation improve the quality and increase the quantity, and is it available?
8. What is the estimated quantity of clean cotton produced per acre? and what extent of ground could be devoted to its production?
9. Can the cultivation be extended with facility?
10. Are there obstacles to its cultivation, and of what nature?

11. What

11. What is the probable consumption by the natives? and what the quantity available for export?

12. Are there any, and what, merchants in your district who are buyers of cotton from the grower, or who would buy cotton if produced? If not, what would be the necessary agency to employ to purchase the cotton and send it to England?

13. At what probable price can it be purchased clean, either at the place of growth or at the port of shipment?

14. What are the means of conveyance from the cotton fields to the port of shipment, and the cost per pound; and are they capable of being facilitated, and in what manner?

15. Are the growers supplied with good seed; and would they attend to the cultivation of superior seed if supplied them?

16. Are they furnished with other machinery than the churka for cleaning, or presses for baling the cotton, or in what manner is it packed for the market?

17. What is the cost of cleaning cotton, per pound, by the churka, or other machine used?

18. Can and will you favour us with samples of cotton grown in your district?

19. It being important that seed of the American variety should be saved for re-sowing, in order to extend its growth, will you take steps forthwith to secure it in a pure and unmixt state, and undertake to disseminate, or cause it to be disseminated, on an extended scale, over your district, for re-sowing?

20. Will you please furnish samples of cloths or goods made from cotton by the natives, and state the cost of manufacture, and the selling price?

21. Will you furnish this Association with a printed or other statement, of the extent of waste lands in your district, and also a sketch map of the same, on the smallest scale available?

22. Will you favour the Committee with a detailed communication upon all the points referred to in the above questions, and generally offer suggestions as to the most effectual manner in which the trade and commerce of your district may be extended, giving special reference to cotton, as it is proposed to publish your letter, with your replies, in the "Cotton Supply Reporter" (published by this Association for the benefit both of the people of India, and of this country).

RECOMMENDED, That it is very desirable that every effort should be made to secure the crop of cotton, which is grown from American seed, from being mixed or adulterated with inferior kinds; and it will be well to point out to the native dealers, the ultimate great advantage which will be gained by this step. That you endeavour to induce the Government to purchase the whole, or as much as possible, of the pure American seed, carefully selected from the best plants, for re-distribution, and in case that is impossible, that you will secure some for this Association, by placing yourself in communication with the Bombay Chamber of Commerce, who will inform you of the quantity required. I have also to direct your attention to the photograph of the relative staple of various cottons, and in order that the native cultivator, trader and other, may see exactly what the manufactures of this country mostly require, you have forwarded herewith a sample of American cotton, showing the quality and length of fibre most in demand.

COTTON GINS.

If you had a number of cottage gins for cleaning cotton sent to you, could you obtain cotton in exchange for them? and would the natives pay the cost, say 3*l.* to 6*l.*? Please say what number, and at what price.

The Cotton Supply Association has held several competitive trials of cotton gins, which have led to the production of a simple gin on the Macarthy principle, which can be supplied as follows:

D, price 3*l.*, turns out 52 lbs. weight of short staple, and 55 lbs. weight long staple, clean cotton, in 10 hours, per one man.

WW, price 1*l.* 10*s.*, turns out 15 lbs. weight of short staple, and 24 lbs. weight long staple, clean cotton, in 10 hours, per one man.

The Committee cannot recommend the use of the saw-gin, finding that the saw-ginned Indian cotton is almost unsaleable in Liverpool on account of the injury done to the fibre by the action of the saw, and never realises by $\frac{1}{2}$ *d.* to 1*d.* per pound so much as when ginned by the Macarthy gin. They are of opinion, that although the Macarthy gin does not turn out so much clean cotton per day as the saw-gin, it would pay better to work an extra number of them, than to use the saw-gin under any circumstances; it is only a question of first cost. For cottage purposes the Macarthy gin surpasses the native churka; it does no injury to the staple, and will clean quite as much cotton as the ryot is likely to produce. They cannot, therefore, too strongly condemn the use of the saw-gin.

The Committee beg to request the favour of your furnishing replies to the above questions, &c., at your earliest convenience.

G. R. Haywood, Secretary.

N. B.—The Committee will feel much obliged by your forwarding a copy of these queries to any other gentleman who may be able to furnish similar information.

III.
Bombay.

Enclosure 4, in No. 12.

(No. 390, of 1861.)

From Lieutenant Colonel *Cuthbert Davidson*, C.B., Resident at Hyderabad, to *G. R. Haywood*, Esq., Secretary to the Cotton Supply Association, Manchester.

Sir,

I have the honour to place before you such information as I have been able to acquire, upon the several points connected with the cultivation of cotton, on which inquiry is made by you in your letter of December 1859.

2. Cotton is extensively cultivated in the Berar districts, and the Raichore Doab, but is scarcely grown at all in the Dharaseo district.

3. In West as in East Berar, two indigenous varieties are cultivated, termed "Jherry," and "Bunnee;" they derive their names from the localities in which they are grown; the "Jherry" is sown on the north, and the "Bunnee" on the south of the river Poorna. Some samples of these were sent from East Berar to Messrs. R. Strong & Co. at Bombay, for transmission to Manchester. In the Dharaseo district exotic seeds were distributed, but the plants are said to have entirely failed. In the Raichore Doab there is one description only of indigenous cotton. Of the American varieties the New Orleans is an acclimated seed. The Sea Island and Egyptian have only been tried experimentally in small quantities, but the New Orleans has been sown on a comparatively extensive scale.

4. The following table professes to exhibit the number of acres cultivated, the annual amount of produce, and the yield per acre; but there is so remarkable a discrepancy in the results, that I fear the data furnished me can be but little relied on:

District.	Number of Acres Cultivated.	Amount of Produce.	Yield per Acre.
		<i>Lbs.</i>	<i>Lbs.</i>
West Berar - - - - -	3,54,805	17,74,02,500	500 not clean.
East Berar - - - - -	2,21,909	3,63,75,000	720 ditto.
Raichore Doab - - - - -	2,43,795	38,80,000	125 ditto.

The yield of 5,574 acres of New Orleans cotton, sown in the Raichore Doab as a dry crop in 1859, was 4,36,190 lbs. in the seed, the third of which, or 1,45,396 lbs. would represent the amount of cleaned cotton. The yield per acre is estimated at an average of 78 lbs., with the seed, or 26 lbs. cleaned, valued at Rs. 2. 10. 6. (or 5s. 3½d.) either with or without the seeds, as the amount of seed may be considered but equivalent to the value of the labour required to remove it. The year* in which the above experiment was made, was a very unfavourable one, as it has been known that in a fair monsoon the produce of an acre of indigenous cotton sold for 10 rupees (1 l.). It is worthy of note here, that in a patch of dry ground sown in the Doab by Captain Meadows Taylor, the Deputy Commissioner, with acclimated Dharwar New Orleans seed, the produce per acre was 465 lbs. of uncleaned, or 155 lbs. of cleaned cotton, the value of which on the spot, is estimated at Rs. 16. 6. (1l. 12s. 9d.).

5. The American seed has not yet had a fair trial in West Berar, and in East Berar has not hitherto been cultivated. No deterioration in quality and staple when preserved from admixture with other varieties has been observed in this seed in the Raichore Doab.

6. The soil in West Berar is of a rich black loam, and the extremes of heat and cold are not so great there as in any other parts of India. In East Berar the soil is of all descriptions, from the deepest black loam to the lightest red soil in the undulating talooks to the south of the district. In the Raichore Doab if 16 be assumed as representing the different qualities of soil in the district, ten may be taken as black soil or fitted for the cultivation of cotton; it is of the same nature as the black soil of Berar, but inferior in richness and productiveness. The Raichore Doab has the benefit of two monsoons, but only the end of each, and there is constantly a deficiency of rain. The climate is mild and pleasant, with the exception of three or four months in the hot season.

7. In West Berar irrigation is not employed in the cultivation of cotton, but the Assistant Commissioner considers it might be made available from reservoirs which could be formed from the mountain streams that are numerous along the valley of Berar, and this officer is of opinion that irrigation would be found to increase the quantity and improve the quality of the cotton; Captain Meadows Taylor, however, who has had considerable experience on the subject, has arrived at totally different conclusions. In East Berar and the Raichore Doab, irrigation is not employed nor available. In the latter district it is considered that it would not improve the quality though it would very greatly increase the quantity of the cotton; among the disadvantages of irrigation are, that it attracts innumerable insects and grubs, which discolour and harden the inside of the pods.

8. In

8. In West Berar, the estimated quantity of clean cotton produced per acre is 125 lbs., and the extent of ground which would be devoted to its production is stated to be 25,000 acres in addition to the 3,54,805 acres already under cultivation. In East Berar, the estimated quantity of cleaned cotton per acre is 165 lbs. It is not stated what extent of ground might be devoted to its production. In the Raichore Doab the yield per acre is estimated at from 25 to 37 or 40 lbs. of cleaned cotton, and about 10,00,000 acres are said to be fitted for cotton cultivation in the district.

9. In all the three districts it is considered that the cultivation of cotton can be extended with facility.

10. In West Berar, there are no apparent obstacles to the cultivation of cotton. In East Berar, want of population keeps immense tracts of country uncultivated. In the Doab there is no obstacle, but as cotton is regarded as rather an exhausting crop, it is sown only once in three years in the same field. The great rise in the price of cereals and oil seeds, &c., may prove an obstacle, unless the price of cotton rises proportionally.

11. The probable consumption of cotton by the natives, and the quantity available for export, have been estimated as follows:—

District.	Probable Consumption by the Natives.	Available for Export.
	<i>Lbs.</i>	<i>Lbs.</i>
West Berar - - - - -	4,43,50,625	13,30,51,875
East Berar - - - - -	1,21,25,000	2,42,50,000
Raichore Doab - - - - -	13,80,000	25,00,000

12. The rich sahoucars (native bankers) in West Berar purchase the cotton from the growers; merchants from Bombay also send their agents annually to the district, the system in force being that the purchasers make advances to the cultivators before the season for growing cotton arrives, stipulating to receive so much cotton at a certain rate; the profits made under this system are said to be enormous, and it obtains equally in East Berar and the Raichore Doab, where, in like manner, merchants attend annually from Bombay and other places, and purchase the cotton in advance.

13. The probable price at which cotton can be purchased at the place of growth, is stated to be—

	<i>Rs. a. p.</i>
In West Berar - - - - -	2 1 6, or 4 s. 2½ d. per 100 lbs.
In East Berar - - - - -	10 - -, or 1 l. - - - ditto.
In Raichore Doab - - - - -	11 10 8, or 1 l. 3 4 - ditto.

But there would seem to be evidently a mistake here in regard to West Berar. In the Raichore Doab it is stated that the immediate purchasers from the ryots make a profit of from 20 to 50 per cent; they dispose of the cotton to wealthy traders at one of the inland entrepôts, who send it to the Coromandel Coast and Bombay, considerable profit being obtained whenever the cotton changes hands. There can be little doubt that a large European firm which would purchase cotton from the grower, and send it direct to England would much encourage its growth; they would be able to give higher prices and still reap large profits by the direct returns which are now divided among so many purchasers.

14. In the province of West Berar and in the Raichore Doab, the cotton is conveyed on carts and bullocks to the port of shipment, the cost of transit to Bombay being estimated in West Berar at 4 to 6 pies per lb., and in East Berar at 8 pies, or about a penny. In the Doab the cost of conveying cotton to Koomptu is computed at from 4 to 6 pies per lb. if carried on bullocks, and a pie or two less per lb. if conveyed in carts. The railway through Berar and to Moadgul in the Raichore Doab will necessarily facilitate the transmission of cotton to the coast to a very great extent.

15. In West Berar it is reported that the growers are supplied with good cotton seed, and would attend to the cultivation of superior seed if it were supplied to them. The Deputy Commissioner of East Berar thinks the seed now in use has deteriorated, and that the cultivators would readily use a better kind if they could procure it; he remarks however on the apathy shown by the people in clearing their fields properly, and on the cotton generally not being picked till it has fallen from the plant to the ground, and thus become dirty. In the Raichore Doab the American seed hitherto supplied has been good, and the Deputy Commissioner thinks if a better price were assured the cultivation of a superior kind would be attended to.

16. The churkah is the only machine in use in the Berars for cleaning cotton. Saw gins have been supplied, but the machinery not being understood they are not used. In the Raichore Doab three Dharwar gins received from Dr. Forbes have been in full use for two years. Two Macarthy gins were also forwarded to that district, but they will not work, and are not considered simple enough. There are no presses in use in any of the districts. The cotton is packed in bales and trodden down by the feet.

III.
Bombay.

17. The cost of cleaning cotton by the churkah or other machine used is thus reported :

	Per lb.	
West Berar - - - - -	$\frac{1}{2}$ pie	} With the churkah.
East Berar - - - - -	near 4 pies	
Raichore Doab - - - - -	2 pies	
Raichore Doab - - - - -	1 pie, with the Dharwar gin.	

18. From West Berar, samples of the two kinds of cotton grown in the district are forwarded, duly labelled, and from the Raichore Doab, 14 specimens as per list attached.

19. The conservation of American seed for re-sowing shall have my attention ; but in West Berar the cultivators would appear to think the soil of the district unsuited to the growth of foreign cotton ; and in the Raichore Doab, as the district has been restored to the Nizam the experiment will die out unless European superintendence could be secured.

* Through Messrs.
R. Strong & Co.,
Bombay.

20. Samples of silk and cotton cloth made in West Berar and the Raichore Doab, are herewith forwarded* as per separate lists. The cost of the manufacture and the selling price are also noted.

21. Sketch maps of the waste lands in these districts cannot be readily furnished, as they are scattered about in detached patches, and are yet unsurveyed. The extent of waste land in West Berar is estimated at 16,48,194 acres, and in the Raichore Doab, at 5,50,000 acres of dry land, of which 1,00,000 may be reckoned as fitted for cotton cultivation. There are also in the last-named district about 6,028 acres of waste wet land. In East Berar there is a large extent of waste land ; but a report upon it has not yet reached me, and an estimate cannot be readily formed, as the boundaries of this district are undergoing modification.

22. Upon the general question of extending and improving the trade and commerce of the assigned districts, I would first notice that the cotton gins referred to by you appear to have gained favour in West Berar ; and it is believed that they would obtain a ready sale, and that the people would willingly give cotton in exchange for them, several applications having been made by natives to be supplied with them. In East Berar the Dunlop gins sent are lying unused, as the people are of opinion that they would tear the staple, and that cotton cleaned by them would not obtain the full price. It is considered advisable that a few of the small cottage gins should be forwarded for experiment. The Macarthy gins have not been found to answer, and the Dharwar gins are only suitable for central marts.

23. As has been already remarked, our great want in Berar, especially in its eastern division, is population. The impetus that will be given to trade when the navigation of the Godavery is opened out, and our eastern frontier is joined with the western ports by the railway, the completion of which in 1862 is confidently expected, will invite capital ; and that population invariably follows capital, is known to be an unerring law. We may, therefore, reasonably look forward to a large extent of waste land, at no very distant period, being brought under profitable cultivation.

24. European colonization is another important question ; but I have already expressed my opinion to the Government of India that we are here met by serious obstacles : among the first of them is the consideration, that our relations towards the assigned districts do not permit us to sanction the permanent alienation on the proprietary right in a single acre of the soil ; and that nothing but the right to do this, and our disposition to avail ourselves of that right, would suffice to attract European capital and enterprise is abundantly obvious. The revenues of these districts are assigned to us for a specific purpose by the Nizam ; the districts themselves are not ceded to us temporarily or in perpetuity ; and it would be as unfair in us to tender, as it is improbable that European capitalists would accept leases for the fulfilment of which we could at the best propose a very imperfect and conditional guarantee. The prospect of rapid and large returns might tempt the adventurous and precipitate, but would have little attraction for the cool and sagacious speculator, who could thoroughly appreciate the want of permanency and insecurity of his position.

25. Another objection, also elsewhere advanced by me is the climate, which, especially in the Valley of Berar, is decidedly unfavourable to the European constitution.

26. The only way in which it appears to me that real benefit could be derived from European capitalists, would be by encouraging them to establish agencies in the districts, for the purpose of purchasing produce direct from the cultivating classes instead of through middlemen. Every facility should be afforded them of erecting cotton serews, gins, spinning machines, oil mills, and similar factories. An agency of the kind I would recommend has been already established by Messrs. Marshall & Co., of Calcutta, in the district of Chonda, within the Nagpore territory, and bordering on the country of his Highness the Nizam.

27. I regret that your letter should have remained so long unreplyed to ; but it was necessary to refer to the district officers for data, which have only just reached me, and from which my present letter is compiled.

I have, &c.

Hyderabad Residency,
6 March 1861.

C. Davidson,
Resident.

LIST of Samples of CLOTHS, COTTON, &c., forwarded with Letter, No. 390, dated 6 March 1861, from the Resident at Hyderabad to the Secretary to the Cotton Supply Association, Manchester.

Number.	PARTICULARS.	Cost of Manufacture.	Selling Price.	Distinguishing Mark.	REMARKS.
WEST BERAR DISTRICT :					
1	Dhotee - - - - -	2 4 -	2 10 -	W. B. No. 1	
1	Pugree - - - - -	4 4 -	4 14 -	" " 2	
1	Kaddy - - - - -	- 5 -	- 6 -	" " 3	
1	Sarree - - - - -	2 - -	- - -	" " 4	
1	Thurroo - - - - -	2 3 -	2 10 -	" " 5	
1	Carpet, per square yard - - - - -	1 - -	1 4 -	" " 6	
1	Piece Cloth, manufactured from the fibre of the "Ootrun" creeper - - - - -	- - -	- - -	" " 7 -	Price not given.
2	Samples of Cloth - - - - -	- - -	- - -	" Nos. 8 and 9	
DHARASEO DISTRICT :					
3	Samples of Cotton - - - - -	- - -	- - -	D. D. Nos. 1 to 3	
RAICHORE DOAB :					
14	As per accompanying List Samples of Cloths, &c., from 1 to 140 - - - - -	- - -	- - -	R. D. Nos. 1 to 140	
	Samples of Cotton - - - - -	- - -	- - -	" " 141 to 154	

LIST of Samples of CLOTHS made from COTTON and SILK by Natives in the Raichore Doab.

General Number.	Names of Articles.	In which Talook prepared.	Length.	Breadth.	Cost of each Yard.	Selling Price of each Yard.
1.	2.	3.	4.	5.	6.	7.
			<i>Yds. in.</i>	<i>Yds. in.</i>		
1	Cholies (female jackets) -	Talook Koostagee -	6 -	- 31 $\frac{1}{2}$	- 13 8	- 14 8
2	Ditto - - - - -	ditto - - - - -	6 -	- 31 $\frac{1}{2}$	- 13 8	- 14 8
3	Ditto - - - - -	ditto - - - - -	6 -	- 31 $\frac{1}{2}$	- 13 8	- 14 8
4	Ditto - - - - -	ditto - - - - -	6 -	- 31 $\frac{1}{2}$	- 8 8	- 9 4
5	Ditto - - - - -	ditto - - - - -	6 -	- 31 $\frac{1}{2}$	- 9 4	- 10 -
6	Ditto - - - - -	ditto - - - - -	6 -	- 31 $\frac{1}{2}$	- 7 -	- 7 4
7	Ditto - - - - -	ditto - - - - -	6 -	- 31 $\frac{1}{2}$	- 6 -	- 7 -
8	Ditto - - - - -	ditto - - - - -	6 -	- 31 $\frac{1}{2}$	- 6 -	- 7 -
9	Ditto - - - - -	Talook Copal -	8 -	- 31 $\frac{1}{2}$	2 - -	2 8 -
10	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	2 - -	2 8 -
11	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	2 - -	2 8 -
12	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	2 - -	2 8 -
13	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	1 12 -	2 - -
14	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	1 8 -	1 12 -
15	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	1 8 -	1 12 -
16	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	1 4 -	1 8 -
17	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	1 4 -	1 8 -
18	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	1 - -	1 4 -
19	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	1 - -	1 4 -
20	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	1 - -	1 4 -
21	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	1 - -	1 2 -
22	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	- 14 -	1 - -
23	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	- 14 -	1 - -
24	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	- 14 -	1 - -
25	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	- 12 -	- 14 -
26	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	- 12 -	- 14 -
27	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	- 12 -	- 14 -
28	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	- 10 -	- 12 -
29	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	- 9 -	- 10 -
30	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	- 9 -	- 10 -
31	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	- 8 -	- 9 -
32	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	- 8 -	- 9 -
33	Ditto - - - - -	ditto - - - - -	8 -	- 31 $\frac{1}{2}$	- 8 -	- 9 -
34	Ditto - - - - -	Talook Gungawatty -	9 -	- 27	- 8 -	- 9 9
35	Ditto - - - - -	ditto - - - - -	9 -	- 27	- 4 -	- 5 1
36	Ditto - - - - -	ditto - - - - -	9 -	- 27	- 3 1	- 4 -
37	Ditto - - - - -	ditto - - - - -	9 -	- 27	- 3 -	- 3 11

LIST of Samples of Cloths made from Cotton and Silk by Natives in the Raichore Doab—*continued.*

General Number.	Names of Articles.	In which Talook prepared.	Length.	Breadth.	Cost of each Yard.	Selling Price of each Yard.
1.	2.	3.	4.	5.	6.	7.
			<i>Yds. in.</i>	<i>Yds. in.</i>		
38	Cholies (female jackets)	Talook Manvee	6 18	— 31½	— 2 9	— 3 1
39	Ditto	ditto Alpoor	5 18	— 31½	— 15 —	1 1 5
40	Ditto	Talook Moodgul	5 —	— 31½	— 3 2	— 4 —
41	Ditto	ditto	5 —	— 31½	— 3 2	— 4 —
42	Ditto	ditto	5 —	— 22½	— 3 2	— 4 —
43	Sadies (female cloth)	Talook Kooshtagee	8 —	1 9	— 8 —	— 8 6
44	Ditto	ditto	7 18	1 9	— 4 —	— 5 —
45	Ditto	ditto	8 —	1 9	— 4 —	— 4 6
46	Ditto	Talook Copal	8 —	1 9	— 10 —	— 12 —
47	Ditto	ditto	8 —	1 9	— 7 3	— 8 —
48	Ditto	ditto	8 —	1 9	— 7 —	— 8 —
49	Ditto	ditto	8 —	1 9	— 3 3	— 4 —
50	Ditto	ditto	8 —	1 9	— 3 —	— 3 9
51	Ditto	ditto	8 —	1 9	— 2 —	— 2 6
52	Ditto	Talook Raichore	8 —	1 9	1 14 1	2 1 11
53	Ditto	ditto	8 —	1 9	— 12 —	— 14 —
54	Ditto	ditto	8 —	1 9	— 9 —	— 10 —
55	Ditto	ditto	8 —	1 9	— 5 6	— 6 —
56	Ditto	ditto	8 —	1 9	— 5 6	— 6 —
57	Ditto	ditto	8 —	1 9	— 5 6	— 6 —
58	Ditto	Talook Gimgawutty	8 9	1 9	— 8 —	— 9 —
59	Ditto	Talook Deadroog	6 —	1 —	— 4 6	— 5 4
60	Ditto	ditto	6 —	1 —	— 2 8	— 3 4
61	Ditto	ditto	5 —	— 27	— 3 6	— 4 —
62	Ditto	ditto	6 —	1 —	— 2 3	— 2 8
63	Ditto	Talook Manvee	7 —	1 9	— 4 7	— 5 2
64	Ditto	ditto	7 —	1 9	— 3 5	— 4 —
65	Ditto	ditto	6 —	1 —	— 2 4	— 3 8
66	Ditto	Talook Sindnoor	6 27	1 —	— 4 2	— 4 5
67	Ditto	ditto Alpoor	8 —	1 9	— 7 —	— 8 —
68	Ditto	ditto Goodvouch	6 18	1 —	— 2 8	— 3 1
69	Ditto	Talook Moodgul	7 —	1 4½	— 3 5	— 4 —
70	Ditto	ditto	7 —	1 4½	— 3 5	— 4 —
71	Ditto	ditto	7 —	1 4½	— 3 5	— 4 —
72	Ditto	ditto	7 —	1 4½	— 3 5	— 4 —
73	Ditto	ditto	7 —	1 4½	— 3 5	— 4 —
74	Ditto	ditto	7 —	1 4½	— 3 5	— 4 —
75	Ditto	ditto	7 —	1 4½	— 3 5	— 4 —
76	Ditto	ditto	7 —	1 4½	— 3 5	— 4 —
77	Ditto	ditto	7 —	1 4½	— 3 5	— 4 —
78	Ditto	ditto	7 —	1 4½	— 3 5	— 4 —
79	Ditto	ditto	7 —	1 4½	— 3 5	— 4 —
80	Ditto	ditto	7 —	1 —	— 2 10	— 3 5
81	Ditto	ditto	7 —	1 —	— 2 10	— 3 5
82	Ditto	ditto	6 —	1 —	— 2 4	— 3 —
83	Ditto	ditto	6 —	— 31½	— 2 4	— 3 —
84	Ditto	ditto	6 —	— 31½	— 2 4	— 3 —
85	Ditto	ditto	6 —	— 31½	— 2 4	— 3 —
86	Dootee (waist cloth for males)	Talook Kooshtagee	11 —	1 31½	— 7 5	— 8 —
87	Ditto	ditto Copal	11 —	1 9	— 11 8	— 14 6
88	Ditto	Talook Raichore	10 —	1 9	— 12 11	— 14 5
89	Ditto	ditto	10 —	1 9	— 9 7	— 11 2
90	Ditto	ditto	10 —	1 9	— 8 —	— 9 7
91	Ditto	ditto	9 18	1 9	— 5 1	— 6 4
92	Ditto	ditto	9 —	1 9	— 3 7	— 4 5
93	Ditto	Talook Gungawutty	5 —	1 —	— 2 —	— 2 10
94	Ditto	ditto	11 —	1 9	— 1 —	— 1 3
95	Ditto	Talook Moodgul	11 —	1 —	— 2 2	— 2 7
96	Ditto	ditto	10 —	1 —	— 2 —	— 2 5
97	Upper cloths for males	Talook Raichore	12 —	1 —	— 4 4	— 5 —
98	Ditto	ditto	12 —	1 —	— 2 8	— 3 —
99	Ditto	ditto	12 —	— 27	— 2 —	— 2 2
100	Ditto	Talook Deodroog	11 —	— 27	— 2 7	— 2 11
101	Ditto	ditto	11 —	1 —	— 1 11	— 2 2
102	Ditto	Talook Sindnoor	9 —	— 22½	— 1 7	— 1 9
103	Ditto	Talook Alpoor	15 —	1 —	— 13 —	— 14 —
104	Ditto	ditto	14 —	1 —	— 10 4	— 11 5

LIST of Samples of Cloths made from Cotton and Silk by Natives in the Raichore Doab—*continued*.

General Number.	Names of Articles.	In which Talook prepared.	Length.	Breadth.	Cost of each Yard.	Selling Price of each Yard.
1.	2.	3.	4.	5.	6.	7.
			<i>Yds. in.</i>	<i>Yds. in.</i>		
105	Turband - - - -	Talook Raichore -	20 -	- 9	- 2 5	- 2 7
106	Ditto - - - -	- ditto - -	20 -	- 9	- 1 5	- 1 7
107	Ditto - - - -	- ditto - -	18 -	- 9	- 1 3	- 1 4
108	Headkerchief - - -	Talook Gimgawutty	2 18	2 18	- 3 2	- 4 -
109	Ditto - - - -	Talook Deodroog -	2 -	2 -	- 5 1	- 6 -
110	Ditto - - - -	- ditto - -	1 27	1 27	- 2 3	- 2 10
111	Ditto - - - -	Talook Mauvee -	2 -	2 -	- 3 6	- 4 -
112	Ditto - - - -	Talook Sindnoor -	2 18	2 18	- 7 -	- 7 2
113	Ditto - - - -	- ditto - -	2 9	2 9	- 4 -	- 4 5
114	Soosee (country gingham) -	Talook Gimgawutty	7 18	1 9	- 2 8	- 3 6
115	Ditto - - - -	Talook Alpoor -	6 -	1 -	- 4 8	- 5 4
116	Ditto - - - -	- ditto - -	6 -	1 -	- 4 8	- 5 -
117	Soonghee (waist cloth for males).	- ditto - -	3 -	1 -	- 6 8	- 8 -
118	Handkerchief - - -	Talook Raichore -	6 -	- 27	1 8 -	- 2 -
119	Ditto - - - -	- ditto - -	6 -	- 27	1 2 -	- 1 4
120	Ditto - - - -	Talook Gungawutty	6 -	- 27	1 6 -	- 2 4
121	Ditto - - - -	- ditto - -	6 -	- 27	1 6 -	- 2 4
122	Ditto - - - -	- ditto - -	6 -	- 27	1 6 -	- 2 4
123	Ditto - - - -	- ditto - -	6 -	- 27	1 4 -	- 2 2
124	Ditto - - - -	- ditto - -	6 -	- 27	1 4 -	- 2 2
125	Ditto - - - -	Talook Deodroog -	12 -	- 18	1 3 -	- 1 6
126	Ditto - - - -	Talook Sindnoor -	6 -	- 27	2 6 -	- 3 -
127	Ditto - - - -	- ditto - -	6 -	- 27	1 10 -	- 2 4
128	Ditto - - - -	Talook Alpoor -	6 -	- 27	3 - -	- 3 8
129	Khadee (coarse cloth) -	Talook Copal -	12 -	1 -	- 1 8	- 2 -
130	Ditto - - - -	Talook Raichore -	11 -	1 -	- 1 8	- 1 10
131	Ditto - - - -	- ditto - -	11 -	1 -	- 1 3	- 1 5
132	Ditto - - - -	Talook Singsoogoor -	11 -	1 -	- 2 9	- 3 1
133	Ditto - - - -	- ditto - -	11 -	1 -	- 2 2	- 2 6
134	Ditto - - - -	Talook Deodroog -	12 -	1 -	- 2 9	- 3 -
135	Ditto - - - -	Talook Alpoor -	12 -	- 31½	- 2 -	- 2 2
136	Carpet - - - -	- ditto - -	2 -	1 -	- 5 -	- 6 -
137	Soojannee (counterpane) -	- ditto - -	2 4½	1 4½	- 6 6	- 7 6
138	Sabaraduputty (stout cloth)	Talook Deodroog -	5 -	- 4½	- - 10	- - 11
139	Country blanket - - -	Talook Copal -	4 18	1 27	2 10 6	4 7 1
140	Ditto - - - -	- ditto - -	3 -	1 -	- 4 -	- 5 4

Sinsoogoor,
8 November 1860.

T. H. Bullock,
Deputy Commissioner, Raichore Doab.

— No. 13. —

EXTRACT REVENUE DESPATCH to Bombay, No. 39, of 17 December 1862.

Paragraph 2. In this volume I observe the late Colonel Davidson's report* on the Cotton Districts of Berar, and the Raichore Doab, which supplies some valuable information in addition to that contained in Major Meadows Taylor's letter to the Government of India in 1858. Colonel Davidson recommends the establishment of agencies in these districts for the purpose of purchasing cotton direct from the cultivating classes, instead of through middle-men; and I am glad to see that an agency of this kind has already been established by Calcutta merchants in the Nagpore territory.

Miscellaneous
Revenue Pro-
ceedings, Bombay
Government,
May 1861.

* No. 992, p. 72.

— No. 14. —

HALF-YEARLY REPORT of the GOVERNMENT FACTORY at Dhurungaum, ending 31 May 1861.

Number. 1.	NAMES. 2.	Stations. 3.	Remarks on the past Season as to how far Anticipations regarding the Crops and its Disposal are realised. 4.	Quantity of Cuppas in hand on account of Government of each Sort, Ginned or not Ginned.				Supposed Proportion of last Year's Crop, which has been cleaned in Saw Gins, or will be Ginned.			
				New Orleans. 5.	Broach. 6.	Total. 7.	Country. 8.	New Orleans. 9.	Broach. 10.	Total. 11.	Country. 12.
1	Dhoolia - -	1	The past was a very unfavourable season for the cultivation of cotton ; the plants were generally stunted, in consequence of the deficiency of rain last year.	-	-	-	-	-	-	-	-
2	Amulnair - -	1		-	-	-	-	-	-	-	-
	Bettawood - -	-		-	-	-	-	-	-	-	-
3	Errundole - -	-		-	-	-	-	-	-	-	-
	Cassodah - -	1		-	-	-	-	-	-	-	-
	Dhurungaum - -	1		-	-	-	-	-	-	-	-
	Puldee - -	1		-	-	-	-	-	-	-	-
4	Bhurgaum - -	-		-	-	-	-	-	-	-	-
5	Chalisgaum - -	-		-	-	-	-	-	-	-	-
6	Mulligaum - -	-		-	-	-	-	-	-	-	-
7	Bhagian - -	-		-	-	-	-	-	-	-	-
8	Pimpulnair - -	-		-	-	-	-	-	-	-	-
9	Nundoorbar - -	-		-	-	-	-	-	-	-	-
10	Suttanpoor - -	-		-	-	-	-	-	-	-	-
11	Thalnair - -	-		-	-	-	-	-	-	-	-
12	Chopra - -	-		-	-	-	-	-	-	-	-
	Arrawood - -	-		-	-	-	-	-	-	-	-
13	Yawull - -	-		-	-	-	-	-	-	-	-
14	Sowdah - -	1		-	-	-	-	-	-	-	-
15	Nusserabad - -	-		-	-	-	-	-	-	-	-
	Julgaum - -	1		-	-	-	-	-	-	-	-
16	Jamnair - -	-		-	-	-	-	-	-	-	-
	Parola - -	1		-	-	-	-	-	-	-	-
17	Khamgaum - -	1		-	-	-	-	-	-	-	-
	TOTAL - - -	9	-	-	-	-	-	-	-	-	-

Numbers.	NAMES.	G I N S.								Amount Expended in the Construction of Gins.
		In Use.		Out of Use.		Completed.		Sold for Government.		
		Belonging to Government.	Belonging to Private Individuals.	Belonging to Government.	Belonging to Private Individuals.	Belonging to Government.	Belonging to Private Individuals.	Number.	For what Amount.	
		13.	14.	15.	16.	17.	18.	19.	20.	
1	Dhoolia - -	- -	- - -	- -	2	-	-	-	-	-
2	Amulnair - -	-	- - -	- -	2	-	-	-	-	-
	Bettawood - -	-	-	-	-	-	-	-	-	-
3	Errundole - -	-	-	-	-	-	-	-	-	-
	Cassodah - -	-	-	-	-	-	-	-	-	-
	Dhurungaum - -	6	1 cattle power ma- chine, and 3 gins.	58	1 cattle power ma- chine, and 4 gins.	-	-	-	-	-
	Puldee - -	- -	- -	- -	1 cattle power ma- chine, and 3 gins.	-	-	-	-	-
4	Bhurgaum - -	-	-	-	-	-	-	-	-	-
5	Chalisgaum - -	-	-	-	-	-	-	-	-	-
6	Mulligaum - -	-	-	-	-	-	-	-	-	-
7	Bhagian - -	-	-	-	-	-	-	-	-	-
8	Pimpulnair - -	-	-	-	-	-	-	-	-	-
9	Nundoorbar - -	-	-	-	-	-	-	-	-	-
10	Suttanpoor - -	-	-	-	-	-	-	-	-	-
11	Thalnair - -	-	-	-	-	-	-	-	-	-
12	Chopra - -	-	-	-	-	-	-	-	-	-
	Arrawood - -	-	-	-	-	-	-	-	-	-
13	Yawull - -	-	-	-	-	-	-	-	-	-
14	Sowdah - -	-	-	-	-	-	-	-	-	-
15	Nusserabad - -	-	-	-	-	-	-	-	-	-
	Julgaum - -	-	-	-	4	-	-	-	-	-
16	Jamnair - -	-	-	-	-	-	-	-	-	-
	Parola - -	- -	- -	- -	2	-	-	-	-	-
17	Khamgaum - -	- -	1 cattle power ma- chine, and 2 gins.	- -	1 cattle power ma- chine not set up.	-	-	-	-	-
	TOTAL - - -	6	5	58	17	-	-	-	-	-

HALF-YEARLY REPORT of the Government Factory at Dhurungaum, ending 31 May 1861—continued.

Number.	NAMES.	Other Items of Expenditure during the Half-year under Report.						Total Amount.	Amount Expended up to the last Half Year.	Amount Expended up to the Half Year under Report.	Total Receipts up to the Half Year under Report.
		Purchasing and Ginning of Cotton.	Contingencies.	Buildings.	Temporary Establishment.	Amount of Superintendence.	Amount of Establishment.				
		22.	23.	24.	25.	26.	27.	28.	29.	30.	31.
			<i>Rs. a. p.</i>				<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>
1	Dhoolia -	-	-	-	-	-	-	-	1,770 3 4	1,770 3 4	-
2	Amulnair -	-	-	-	-	-	-	-	1,984 12 8	1,984 12 8	-
	Bettawood -	-	-	-	-	-	-	-	2,299 2 11	2,299 2 11	-
3	Errundole -	-	-	-	-	-	-	-	849 6 11	849 6 11	-
	Cassodah -	-	-	-	-	-	-	-	442 14 2	442 14 2	-
	Dhurungaum -	-	15 3 9	-	-	-	700 - -	715 3 9	1,36,959 5 4	1,37,674 9 1	1,18,698 3 9
	Puldee -	-	-	-	-	-	-	-	-	-	-
4	Bhurgaum -	-	-	-	-	-	-	-	-	-	-
5	Chaliagaum -	-	-	-	-	-	-	-	-	-	-
6	Mulligaum -	-	-	-	-	-	-	-	-	-	-
7	Bhaglan -	-	-	-	-	-	-	-	-	-	-
8	Pimpulnair -	-	-	-	-	-	-	-	-	-	-
9	Nundoorbar -	-	-	-	-	-	-	-	4,161 12 -	4,161 12 -	-
10	Suttanpoor -	-	-	-	-	-	-	-	212 15 3	212 15 3	-
11	Thalnair -	-	-	-	-	-	-	-	380 9 8	380 9 8	-
12	Chopra -	-	-	-	-	-	-	-	15,563 5 8	15,563 5 8	-
	Arrawood -	-	-	-	-	-	-	-	2,491 11 11	2,491 11 11	-
13	Yavull -	-	-	-	-	-	-	-	4,343 7 -	4,343 7 -	-
14	Sowdah -	-	-	-	-	-	-	-	35 8 -	35 8 -	-
15	Nusserabad -	-	-	-	-	-	-	-	1,018 2 11	1,018 2 11	-
	Julgaum -	-	-	-	-	-	-	-	23,160 13 9	23,160 13 9	-
16	Jamnair -	-	-	-	-	-	-	-	2,280 15 7	2,280 15 7	-
	Parola -	-	-	-	-	-	-	-	-	-	-
17	Khamgaum -	-	-	-	-	-	-	-	-	-	-
	TOTAL -	-	15 3 9	-	-	-	700 - -	715 3 9	1,97,955 3 1	1,98,670 6 10	1,18,698 3 9

REMARKS.

The following amounts were received for the construction of three bullock-power machines for the use of private Purchasers, viz.:—

	<i>Rs. a. p.</i>
1 large machine, to work by 8 bullocks -	331 1 5
1 small machine, to work by 4 bullocks -	267 13 10
1 small machine, to work by 4 bullocks, with centre post -	279 5 1
TOTAL -	Rs. 928 4 4

The following amounts were received and paid into the Errondole Mamlutdar's Treasury during the half year under report. Cost of materials expended from the Government Dead Stock, and wages of artificers employed in constructing the above-mentioned :—

	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>
3 Bullock-power machines -	278 6 4	278 6 4
Hire of 3 saw gins to Luximon Sett, sowkar of Dhurungaum -	8 14 1	
Rent of godown -	1 9 10	10 7 11
Hire of 3 saw gins to Bickaree Sett, sowkar of Dhurungaum -	19 6 10	
Rent of godown -	3 3 4	
Repairs executed to a bullock-power machine -	- 8 -	23 2 2
Repairs of 3 saw gins for Seevalall Kissondass, sowkar of Paldee -	- - -	19 4 1
Received from the Mamlutdar of Errondole on account of 8 logs of Chowsalla timber supplied for the construction of a Mahratta school-room at Dhurungaum -	- - -	68 6 -

The following amounts were received by the Mamlutdar of Errondole from Seevalall Kissondass, sowkar of Paldee, not included in former half-yearly reports, viz.:—

	<i>Rs. a. p.</i>
Balance due for a bullock-power machine purchased by him -	113 11 9
Price of a gin of 20 saws purchased by him -	105 1 8
TOTAL Receipts on account of Government -	Rs. 218 13 5
	618 7 11

N.B.—One gin of saws lent to the Khunner Agent is included with those in the factory.

Dhurungaum, 1 June 1861.

A. Mackenzie,
Superintendent Government Factory.

III.
Bombay.

— No. 15. —

No. 1052 of 1861—Revenue Department.

From *W. Hart*, Esq., Officiating Revenue Commissioner, Southern Division,
to *A. D. Robertson*, Esq., Acting Chief Secretary to Government.

Poona Revenue Commissioner's Office,

15 June 1861.

Sir,

Resolution of
Government of
India, 28 Feb.
1861, with En-
dorsement.

I HAVE the honour to reply to your memorandum, No. 1214, of the 13th March last, forwarding correspondence relative to the measures capable of adoption by Government in furthering the interests of the cotton trade in this Presidency.

2. The chief cotton producing districts in this division being those of Dharwar and Belgaum, I requested the collectors of those districts to favour me with their suggestions, and I beg to transcribe below the replies I have received from them.

Mr. Goldfinch, the collector of Dharwar (who promptly replied to my reference of the 27th March) writes—

“In this collectorate there are no impediments to the transport of cotton capable of removal in the manner contemplated by the Governor General in Council.

“Captain Playfair, Executive Engineer, to whom the resolution was sent for report in the Public Works Department, is of the same opinion as myself.

“Carts freely traverse this district from end to end throughout the fair season, and all that Government can now do to assist the cotton trade (the completion of the lines of road leading to it having been included in Budget of 1861-62) is, to hasten the opening of the port of Ludasheoghur and the long-talked-of transfer to this collectorate of the intermediate country.”

Mr. Tucker, the acting collector of Belgaum, whose reply is dated 6 June 1861, observes—

“Under the restrictions contained in the resolution of the Government of India in the Home Department, dated 28th February last, I have no suggestions to offer with regard to procuring an immediate increase in the production of Indian cotton for the Home market. All the projects which occur to me have the disadvantage of requiring time to produce any beneficial effect. The only measures which can, it seems to me, be adopted with any prospect of immediate benefit is to make as widely known as possible during this planting season the probability of an increased demand for cotton at higher rates.

“The cotton roads in this district, though not by any means what they might be, are yet not such as to call for any temporary improvements of the nature of those suggested by the Government of India.

“There are as yet, I believe, no capitalists operating in those districts who are likely to require the aid of the Government treasuries in their banking arrangements.”

3. I myself am inclined to rely more upon the facilities given to cotton dealers to make use of the railways as tending to encourage the growth of cotton, than upon the improvement of any of the cart roads leading to the sea through the southern division of this Presidency, with the exception of those which form portions of roads to Sudasheoghue and Compta, and projects for completing all the portions of these roads which would pass through our territories (in the Dharwar Collectorate), were matured and entered in the Public Works Budgets of the Bombay Government, I believe, so long ago as 1856 and 1857.

4. If the mercantile houses and dealers in Bombay who are content to speculate in the purchase there for the English market of cotton brought down from the interior by others could be made to see the advantage of themselves making their purchases on the spot, or at any mart near the place of growth, and obtaining delivery at some place in railway communication with Bombay, instead of at the port itself, they could, I am sure, get far more and cleaner cotton for their money than they now do, and at the same time a larger share of its price would reach the growers, who would thus be encouraged to extend its cultivation. This is a remedy which must be left to private enterprise; but considering how much of this quality exists among the merchants of Bombay, it seems unaccountable that some of them have not established up-country agencies for the purchase of cotton, and its despatch to them by rail. Europeans
and

and Americans, who, from their education and experience, can judge of the saving as regards time and quality (even if there be none in the money cost of freight) which can be effected by the use of the railway instead of country carts, in which the cotton is exposed to depredation, dirt, and deterioration of every description, during a protracted journey at the rate of twelve or fourteen miles a day, are apt, and with some reason, to ridicule the folly of natives who cling to the old means of conveyance. But when the same men fail to see the advantage of purchasing their cotton before it is subjected to such evils, and of providing for its cheaper and safer carriage to Bombay, and are content to pay more than the price for which they could get comparatively clean cotton, for the mixture of cotton, with the dust of hundreds of miles of bad roads, and the water from the Bombay Harbour, which has been added to meet the loss of weight caused by depredations on the roads, it may be questioned whether they are not more fairly open to ridicule, and to the charge of being victims of *dustoor*.

5. If the merchants who are accustomed to purchase cotton in Bombay would but try, to any considerable extent, the experiment of purchasing it in the interior for delivery at the nearest railway station, and provide means of protecting it there till it could be forwarded, I have no doubt that the production of cotton would in two seasons be vastly increased. I do not, however, see that this result can be materially encouraged by any means now at the disposal of Government.

I have, &c.,

W. Hart,
Officiating Revenue Commissioner,
Southern Division.

No. 2959 of 1861—Revenue Department.

To the Officiating Revenue Commissioner, Southern Division, dated Bombay Castle, 28 June 1861.

COPY of the Resolution passed by Government on a letter from the Officiating Revenue Commissioner, Southern Division, No. 1052, dated 15th June 1861, replying to Government endorsement, No. 1214, dated the 13th March last, relative to the measures capable of adoption by Government in furthering the interests of the cotton trade in this Presidency :—

Mr. Hart's plan is a very feasible one, if the ryots are not in the hands of the village soucar, and he has no connexion with a Bhatia or Marwarree in Bombay; but if either of these incidents occur, and the ryot or soucar are not perfectly free agents, the European or American merchant will not for a long time get that footing which would enable him to purchase as much cotton as would pay the expenses of the establishment on the spot.

2. Whenever the Bombay merchant can go and treat with the cotton-growers direct, he will save in purse and in the character of the cotton; but he will find it hard work at first.

M. J. Shaw Stewart,
Under Secretary to Government.

— No. 16. —

EXTRACT REVENUE DESPATCH to Bombay, No. 42, dated 31 December 1862.

Para. 2. THE reports of the Revenue Commissioner Southern Division, and of the Collectors of Belgaum and Dharwar, as to the measures capable of adoption by Government in furthering the interests of the cotton trade, suggest probably the best means of obtaining cotton in larger quantities and in a cleaner state by the Bombay dealers with the best prospect of success—viz., the establishment of agencies on the spot. When such agencies are at first established, there will be many difficulties to encounter in dealing with ryots already in the hands, more or less, of village soucars. The advantages of a system of direct dealing with the growers will be as great to them as to the merchants, and I therefore trust that you will cause every facility to be given by the local officials to persons desirous of establishing such agencies, especially in affording, where not inconvenient, the aid of the Government treasuries in their banking arrangements. The means of procuring larger supplies of cotton, and in a

Extract Miscellaneous Proceedings of Bombay Government for June 1861.

III.
Bombay.

cleaner state, are within the reach of private enterprise; and I feel assured that all reasonable assistance and encouragement will readily be extended to agents and dealers who desire to purchase direct from the ryots, by the officials in the cotton districts of your Presidency.

— No. 17. —

(No. 130 of 1861.)

From *H. Brooke, Esq.*, Secretary to the Bombay Chamber of Commerce, to *M. J. Shaw Stewart, Esq.*, Under Secretary to Government, General Department, Bombay.

Bombay Chamber of Commerce, Bombay,
9 July 1861.

Sir,

By direction of the Committee of the Chamber of Commerce, I have the honour to submit to you copy of the report of Mr. W. C. Sillar, who was appointed by the Chamber, at the request of Government, to accompany the Commission recommended by the Supreme Government to visit some of the cotton districts of this Presidency.

This report is necessarily meagre, owing, as explained therein, to Mr. Sillar having been compelled to bring his journey to an abrupt termination;—carts and other means to enable him to continue the same, all assistance in fact, having determinately been refused him by the native local authorities. It will be remembered that Mr. Sillar was originally appointed by the Chamber to accompany a Government officer on the projected tour—that, Government having subsequently found it inconvenient to spare an officer for this service, Mr. Sillar was asked to set out alone, and assured that, on arrival at the cotton districts, he would be furnished with all assistance, and be accompanied from station to station by a European, or intelligent native assistant possessing a knowledge of the particular locality. So short a period of the fair-weather season remaining, Mr. Sillar, without further delay, set out on his journey; but, the Committee regret to state, met with so little of the promised Government aid, as to be compelled to return without doing much towards accomplishing the end in view.

The Committee of the Chamber believe that great advantage would result to the native community and the mercantile classes here, and the manufacturing interests at home, from a tour through some of the cotton districts of this Presidency, by an engineer officer accompanied by a merchant; and if Government be prepared to carry out the project, the Committee would suggest that early intimation should be given them, to enable them to secure the services of a member of the Chamber. They would further beg to remark that such a tour, if undertaken, should not be delayed longer than December or January, the early cotton-picking season.

Reverting to Mr. Sillar's report, it is evident that, in the present state of the country roads or tracks, it would be totally useless for an European to attempt to carry on business in the Nizam's or neighbouring territory with any prospect of a successful result.

It would also appear from the report, and from subsequent information on the subject, that the recent restoration of territory to the Nizam has brought about the isolation of a large tract of country under British rule, and that transit dues of a very onerous character are now levied by the Nizam's Government—viz., ten annas per cent., or equivalent to about five-eighths per cent. on cotton, and nearly two per cent. on linseed. It must be borne in mind that the strip of territory that has thus to be crossed, does not exceed ten miles in width. It appears to the Committee that this levy is extremely injurious to the trade of the district, and they would venture to suggest that early steps should be taken to secure its removal.

I have, &c.

H. Brooke, Secretary.

To the Chairman of the Chamber of Commerce, Bombay.

Sir,

Bombay, 4 June 1861.

ON the 30th ultimo, I had the pleasure of laying before your Committee a full account of the tour I had just taken through some of the cotton districts, and now I beg to wait upon you with a condensed report upon it.

I left

I left Bombay on the 26th April, and returned upon the 24th May. I left under the impression that I was to accompany some Government officer; but, finding afterwards that this was not the case, I purposed striking across country, in a north-easterly direction, from Barsee to Oomrawuttee, through Jaulnah, and returning to Bombay *vid* Khandeish.

I did not, however, succeed in getting beyond Yeat, owing to the contumacy of the authorities there; and in consequence I struck off to the west, and, going by Lowary, joined the rail at Jewoor, and so returned to Bombay.

The season was too far advanced to permit me to see anything of cotton cultivation; but large tracts of country are of that deep black soil which is so well adapted to it, and on which, it was reported to me, no cotton is attempted to be grown.

Such samples as I saw, whether of cotton in the uncleaned state or of the remains of cotton plants on the ground where it was grown, were wretched in the extreme, suggestive of an utter want of care in any one process of picking or of selection of seed for sowing. This appeared to me attributable to two causes—first, from the wretched description, if not utter absence, of roads, compelling the cultivators to prefer a crop which has a market near at hand, such as the grain crop; and, secondly, the great difficulty attending the endeavour of an European to visit these localities for the purpose of persuading them to adopt better modes of culture.

In addition to the ordinary difficulties of such an endeavour, independent of the expense and loss of time, there is the passive resistance and obstinacy of many of the village patels and mamlutdars, who do not render that assistance which they ought. In my own case, the mamlutdar of Yeat, after receiving instructions to assist me, left the place without doing so; and the Patel would not, under the plea that he could not.

As without assistance from the Patel I must either have forcibly taken what I required in the shape of carts from the cultivators, wherever I found one, or return to Bombay, I preferred the latter, fully persuaded that the former course is frequently forced upon officers travelling, and makes one great cause of ill-feeling between the native and the European. Before leaving, however, I gave him fully to understand that I threw on his shoulders the whole responsibility of thus bringing my journey to a termination, and that it should be reported to his superiors.

* The same opposition I met with in the villages of Androod and Lipany. In addition to these obstacles in the way of improved or extended cultivation, I may mention the levy of transit dues by the Nizam on all produce which crosses the Seena river; and as this river bounds a part of his dominions, and stands between the town of Barsee and our railway, the whole of that traffic is under an obligation to pay these heavy dues.

I met with the same thing at a village called Doneghaum, on the Seena, levied on everything that comes from the English village called Sonarry.

During the short visits which an European is able to make to these districts, the good he might establish is greatly interfered with by the almost impossibility of his being able to obtain correct information, owing to the diversities of the weights and measures in use, whether those of produce or of land.

On this point, however, I shall address the Chamber separately, as well as upon one or two points not strictly connected with cotton cultivation, but which tend to increase the difficulty of bringing into close and frequent contact the cultivators on the one hand and the consumer of his produce on the other, or, which amounts to nearly the same thing, his Indian agent.

Before concluding, I may remark that a great reform is needed, in Bombay itself, in the whole system of cotton purchasing and shipping. The state of the bunders, the cotton green, the presses, the style of contracts, the want of accommodation, all require remedying; though to enter into the detail of the manner in which I think this reform should be effected would occupy too much of your time at present, and I shall therefore defer it until the Chamber or the Committee are prepared to go into the matter fully.

Meanwhile, I remain, &c.,
W. C. Sillar.

III.
Bombay.

No. 3218 of 1861—Revenue Department.

COPY forwarded to the Officiating Revenue Commissioner, Southern Division, for any remarks that Mr. Hart or the Collector of Sholapoor may wish to offer.

Bombay Castle,
16 July 1861.

M. J. Shaw Stewart,
Under Secretary to Government.

— No. 18. —

No. 3359 of 1861—Revenue Department.

To the Chairman of the Chamber of Commerce.

Sir,

I AM directed to acknowledge the receipt of your secretary's letter, No. 130, dated the 9th instant, with its accompanying copy of a report by Mr. W. C. Sillar, of the tour taken by him through some of the cotton-growing districts.

2. In reply, I am directed to state, for the information of the Chamber, that Government issued a circular letter, under date the 25th of April last, to the collectors, calling upon them to afford Mr. Sillar every assistance in their power. It, however, appears that Mr. Sillar started on the 26th idem for Barsee by rail; he consequently must have reached that place before the Collector of Sholapoor had received the instructions adverted to, or, in fact, any intimation of Mr. Sillar's intended movements. It is therefore evident, I am to observe, that the want of assistance complained of is to be ascribed to Mr. Sillar not having placed himself in communication with the local officers, whose districts he was about to visit, with the view of apprising them of his movements, and assuring himself that they were prepared and ready to co-operate with him. Nor does Mr. Sillar, after arrival in the districts of Sholapoor, appear to have written to inform the collector he had done so; otherwise he would doubtless have received the promised assistance to enable him to prosecute his journey, and the Governor in Council can only regret that his trip has proved so fruitless.

3. His Excellency in Council will however, I am desired to state, be prepared to depute, during the ensuing cold season, either Captain Anderson or a qualified assistant collector, to accompany through the Southern Mahratta country, any mercantile gentleman whose services the Chamber may secure for the purpose of making a tour of the cotton-producing districts of this Presidency, and through the other cotton districts than those of the Southern Mahratta country. An European assistant collector will be instructed to accompany him from station to station.

4. In order, however, to avoid the failure of the past season, the Chamber, or the gentleman who may proceed on the duty, should, I am to add, give the collector of the district he may be about to visit 15 days' previous notice, in order that the officer deputed to meet him may be in readiness to do so.

I have, &c.

M. J. Shaw Stewart,
Under Secretary to Government.

Bombay Castle,
29 July 1861.

— No. 19. —

EXTRACT REVENUE DESPATCH to Bombay, No. 4, dated 9 February 1863.

Extract Miscel-
laneous Pro-
ceedings of Bom-
bay Government
for July 1861.

Para. 5. THE failure of Mr. Sillar's mission to the cotton districts, appears to have been entirely due to his having omitted to communicate with the authorities in the districts through which he desired to pass. Any person who is deputed to make these tours must of course give due notice of his intentions; but every facility should be extended to merchants or agents who may desire to visit the cotton districts, and care should be taken that the mercantile community of Bombay have no grounds for the complaint that any official impediments are thrown in the way of establishing agencies in those districts.

— No. 20. —

No. 3791 of 1861.—Revenue Department.

From *M. J. Shaw Stewart*, Esq., Under Secretary to the Government of Bombay, to *W. Grey*, Esq., Secretary to the Government of India.

Sir,

I AM directed to acknowledge the receipt of your letter No. 1400, dated 23 ultimo, forwarding copy of a Resolution of the Government of India on the subject of the preparation of a resumé or analysis of the information on record in the several Presidencies, relative to the production and supply of cotton from this country, and to state for the information of the Right Honourable the Governor General in Council, that the preparation of a work of the character described in the resolution as regards this Presidency, has been placed by his Excellency the Governor in Council in the hands of Mr. Walter Cassels, of the firm of Messrs. Peel, Cassels & Co., who has been so good as to consent to undertake the task without remuneration to himself, on the understanding that Government will bear the copying charges he may incur in preparing the publication for the press.

I have, &c.

M. J. Shaw Stewart,
Under Secretary to Government.

Bombay Castle,
27 August 1861.

No. 3792 of 1861.—Revenue Department.

ORDERED, that copies of the above be communicated to the Public Works Department of the Secretariat, the Chief Engineer, the Commissioner in Sind, the Commissioner of customs, salt and opium, and the two Revenue Commissioners, for information and guidance, with a request that they will furnish Mr. Walter Cassels with lists of all papers or records at their command, which may contain information bearing on the objects in view.

— No. 21.—

No. 3866 of 1861.—Revenue Department.

To the Secretary to the Chamber of Commerce, Bombay.

Sir,

I AM directed by the Governor in Council to forward copy of a letter from the Government of India, and of the resolution * therein referred to, and to request, that the Chamber will state if they consent to undertake the task of awarding the prize allotted to this Presidency, and that they favour his Excellency in Council with any suggestions which might be embodied in the resolution of the Government of India, with the conditions stated in a code of rules to be translated into the languages of this Presidency, and promulgated in the cotton growing districts.

* Dated 9 Aug.
1861.

I have, &c.

M. J. Shaw Stewart,
Under Secretary to Government.

Bombay Castle, }
31 August 1861. }

— No. 22.—

From *G. Lord*, Esq., Chairman, to *M. J. Shaw Stewart*, Esq., Under Secretary to the Government of Bombay.

Bombay Chamber of Commerce, Bombay,
24 August 1861.

Sir,

THE Committee of the Chamber of Commerce have this day had their attention called to a resolution by the Governor General in Council, dated the 9th instant, offering prizes for the production of cotton during the next two years. The awards, it appears by para. 5 of the resolution, will be placed in the hands of the several Chambers of Commerce; and the Committee of the Bombay Chamber hope they may be permitted, without waiting for special

III.
Bombay.

reference from Government, to lay before his Excellency the Governor in Council a suggestion, which they are led to think should, without delay, be acted on.

2. A prize of 10,000 rupees it is intended should be given in each Presidency, for "the largest quantity of cotton, combined with the best quality, which shall be grown upon any one estate during the season of 1861-62, and which shall be brought for shipment to any port by the month of June 1862."

3. The present season is now too far advanced to admit of the proposed prize for 1861-62 aiding in the carrying out of the intention expressed in para. 3 of the resolution, viz., to "expedite the solution of the doubts which exist as to the best soils and climates, and modes of cultivation for cotton in those districts, whence, heretofore, there has been little, if any, export of cotton to Europe;" and the prize, if given for this year, as above proposed, will fall to some cultivator who, from accident, may chance to be in the possession of land the best suited for exotic cotton, who perhaps had paid no very careful attention to the best modes of cultivation, and who would be able to give little information of real practical value.

4. The seed for the present season, with the exception perhaps of the Dharwar district, having already been sown throughout this Presidency, it is the opinion of the Committee, that prizes for this year should be so distributed as to ensure the picking, cleaning, and marketing in the best possible manner of the growing crop; and with a view to carrying out this object in the most effectual manner, prizes should be given for the several descriptions of cotton, say one for each growth of the various districts; if there be but one prize, Dharwar cotton from American seed will no doubt carry it off, and the growers of the large crops of Dhollera, Broach, and Oonnawatee, varieties useful and susceptible of great improvement from care in picking and cleaning, will feel that it is useless to attempt to compete with those who have the more favoured soil of the south.

5. Holding these views, the Committee would respectfully suggest, that the sum of 10,000 rupees, proposed to be given in the current year, should be placed at the disposal of the Chamber of Commerce, to be distributed in such a manner as to its members may appear best calculated to effect the end aimed at in para. 4 of this letter; the exact particulars and conditions to be settled and made known immediately on the assent of Government to this proposal being obtained.

6. For the season of 1862-3 it will be very desirable that prizes, specially for the growth of cotton, should be given, as intending competitors will have had time to make necessary preparations; the Committee, however, think, that as a greater inducement, there should be several graduated prizes.

I have, &c.

G. Lord, Chairman.

— No. 23. —

No. 3877 of 1861.—Revenue Department.

To G. Lord, Esq., Chairman of the Chamber of Commerce, Bombay.

Sir,

IN reply to your letter dated the 24th ultimo, I am directed to inform you, that the subject of the resolution of the Government of India therein referred to, is under the consideration of his Excellency the Governor in Council, and that the views which may be taken by this Government on the question will shortly be communicated to you.

I have, &c.

M. J. S. Stewart,

Under Secretary to Government.

Bombay Castle,
2 September 1861.

— No. 24. —

(No. 162 of 1861.)

III.
Bombay.

From the Secretary to the Bombay Chamber of Commerce, to *M. J. Shaw Stewart, Esq.*, Under Secretary to Government, General Department, Bombay.

Bombay Chamber of Commerce, Bombay,

Sir,

26 August 1861.

By direction of the Committee of the Chamber of Commerce, I have the honour to call your attention to the remarkable improvement that has of late taken place in the value of the Dharwar saw-ginned American cotton.

2. A few years ago the cultivation and ginning of this description had gradually sunk to so low a grade, that the quotations in the English market presented but a small advance over the common native Comptah, which is the produce of the same collectorate. It was then pointed out that this decline in value was owing to two special causes, the careless sawing of mixed American and native seed, and the want of attention in keeping the saw gins in good working order. The letters of Dr. Forbes show that about this time he had directed his attention to these important points, and by taking every opportunity of explaining to the chief cultivators the desirability of weeding out the native cotton, and by organizing a system by which the saw gins were preserved in good repair and efficient working order, he has evidently succeeded in bringing about a marked improvement in the quality of the cotton, which now promises to compete on fair terms with the produce of the United States.

The object of the present communication, while only doing justice to Dr. Forbes' exertions, is to point out what may be done by individual influence, perseveringly and temperately brought to bear against native apathy and indifference, and to urge upon Government the importance of maintaining, by similar means, the high character which this description of cotton is now steadily acquiring.

The relative prices of saw-ginned Dharwar, contrasted with Broach and Comptah, may be seen from the following quotations :—

Midd.	Orleans.	Fair Dharwar.	Fair Broach.	Fair Comptah.
1st August 1850 -	8	7	6½	5¾
1851 -	4½	4½	3¾	3½
1858 -	7½	5¾	5¾	5¾
1859 -	7½	5½	5½	5½
1860 -	5¾	4½	4½	3½
1861 -	8½	7½	6½	5½

It will thus be seen that the superiority of Dharwar saw-ginned over native Comptah, was indicated in—

1850 by 1½ d. over Broach by ¾ d.	1859 by ¼ d. over Broach by nil.
1851 by 1 - - - - - ½	1860 by 1 - - - - - ½ d. less.
1858 by ¼ - - - - - ½	1861 by 1½ - - - - - 1 more.

Showing the extreme variations, in relative values, brought about by carelessness and indifference at one period, and by attention and perseverance at another.

I have, &c.

H. Erooke, Secretary.

No. 3873 of 1861.—Revenue Department.

To *H. Brooke, Esq.*, Secretary, Chamber of Commerce.

Sir,

I HAVE the honour to acknowledge the receipt of your letter, No. 162, dated 26th ultimo, and to inform you that it has been laid before his Excellency the Governor in Council.

I have, &c.

Bombay Castle,
2 September 1861.*M. J. Shaw Stewart*,
Under Secretary to Government.

III.
Bombay.

— No. 25. —

No. 1432 of 1861.—Revenue Department.

From *W. Hart*, Esq., Officiating Revenue Commissioner, Sholapoor District, to
M. J. S. Stewart, Esq., Under Secretary to Government.

Sir,

Camp, Sholapoor, 7 August 1861.

IN acknowledging the receipt of your indorsement, No. 3218, dated the 16th ultimo, I have the honor to state, for the information of Government, that the Collector of Sholapoor, Mr. Gray, to whom I referred it, and its accompaniments, has replied to the representations made by Mr. Sillar, in his letter to the Chairman of the Bombay Chamber of Commerce, as follows :—

“The tour sketched was all but impossible so late in the season. Mr. Sillar’s difficulties do not appear to have commenced until he had passed the limits of the Sholapoor collectorate. The collector was for some days in company with that gentleman, and took means to ensure all assistance being rendered within his own charge.

“With reference to the absence of roads, of which Mr. Sillar complains, the Collector begs to state that there is egress for cotton, as well as for other produce, from Barsee and the Barsee talooka, by a made road leading to the railway. Internal cross-roads are, of course, a desideratum still; but Paugaum, Barsee, and Wyrag are the chief marts of the talooka, and also, more or less, *entrepôts* of the cotton trade. These places are also connected with each other and with Sholapoor by a fair-weather road. Mr. Sillar’s remark, therefore, does not seem to apply to the Barsee talooka, which is the portion of the collectorate of which Mr. Sillar saw most. The collectorate generally is now not badly provided with fair-weather roads. The Kurmulla and Marah talookos, through small portions of which Mr. Sillar also passed, are perhaps worse off in this respect than most other parts.

“The town or talooka of Yeat, the Mamlutdar of which appears to have given no assistance whatever to Mr. Sillar, is situated beyond the limits of the Sholapoor collectorate.

“The levy of transit duties by the authorities of his Highness the Nizam, on produce, &c. crossing the River Seena, and at other places on the road from Barsee to the railway station at Koordoowaree, has been abolished, as intimated by Government in their letter in the Political Department, No. 2498, dated the 12th instant, replying to the Collector’s representation on the subject, No. 527, dated the 27th May 1861.

“The remark made by Mr. Sillar in paragraph 10 is, no doubt, true; but it must be borne in mind that the great cotton field is far beyond the limits of the Bombay Presidency. Within the Sholapoor collectorate the diversity complained of does not exist.”

2. Mr. Gray has, I think, noticed all the points in Mr. Sillar’s letter requiring particular remark, so that I do not think it necessary to make any further observations than to refer to the third paragraph of my letter, No. 1280, of the 17th of July 1861, explaining my reason for advocating the formation of a road to the railway station at Marheh, from Wyrag, in the Barsee talooka.

I have, &c.

W. Hart,

Officiating Revenue Commissioner, Sholapoor District.

— No. 26. —

(No. 154 of 1861.)

From *G. Lord*, Esq., Chairman of the Chamber of Commerce, to *M. J. Shaw Stewart*, Esq., Under Secretary to Government, Revenue Department, Bombay.

Sir,

I HAVE the honor to acknowledge receipt of your letter, No. 3359 of 1861, dated 29th ultimo, and on behalf of the Committee of the Chamber to explain, that the want of assistance in the prosecution of his journey, complained of by Mr. Sillar, was not experienced until he entered the territory of the Nizam.

Mr.

Mr. Sillar did not set out on his journey so precipitately as Government have been led to believe, nor did he omit to put himself in communication with Mr. Gray, the collector of Sholapoor; on the contrary, he was with that gentleman at Barsee and in the neighbourhood for several days, waiting letters from Colonel Davidson, the resident at Hyderabad. The expected letters reached Mr. Sillar, at Barsee, on the 6th of May, and amongst them was one requesting Major Cowper, who was then near Jaulna, to render every assistance to Mr. Sillar; but without providing for the long intervening journey, the season was growing very late, and as there was not time to communicate with Major Cowper, Mr. Sillar at once set out for Jaulna. But on passing into the Nizam's territory, the village mamlutdars and patels, viz., at Yeat, Audrood, and Lipane, most obstinately refused to provide him with bullocks or carts, or in fact to render him any assistance, and after endeavouring for many days under the greatest difficulties to proceed on his journey, he found himself compelled to abandon the attempt.

The Committee learn with much pleasure, that his Excellency the Governor in Council, will be prepared to depute engineer officers, or European assistant collectors, to accompany through the various cotton growing districts of this Presidency during the ensuing cold season, any gentleman whose services the Chamber may secure, and they have every expectation of being able to arrange satisfactorily for such a tour. The Committee are of opinion it should be undertaken in November, to admit of its extending over a wide area, and they hope to address Government again on the subject in October next.

Bombay Chamber of Commerce,
13 August 1861.

I have, &c.

George Lord,
Chairman.

— No. 27. —

No. 3913 of 1861.—Revenue Department.

To *G. Lord*, Esq., Chairman of the Chamber of Commerce, Bombay.

Sir,

I AM directed to acknowledge the receipt of your letter, No. 154, dated the 13th ultimo, and to state that it is satisfactory to learn that the want of assistance complained of by Mr. Sillar, in his first letter, was not experienced in the districts under this Government, and his Excellency in Council hopes that by timely communication with the resident at Hyderabad similar difficulties may not again occur in the Nizam's territory during the tour to be undertaken next season by the gentleman to be deputed by the Chamber of Commerce.

2. Copy of this correspondence will be forwarded to the resident at Hyderabad.

I have, &c.

Bombay Castle, 5 September 1861.

M. J. Shaw Stewart,
Under Secretary to Government.

— No. 28. —

No. 3914 of 1861.—Revenue Department.

To the Resident at Hyderabad.

Sir,

WITH reference to your letter, No. 650, dated the 29th April last, I am directed by his Excellency the Governor in Council, to forward for your information, copy of the correspondence noted in the margin, on the subject of the tour taken by Mr. W. C. Sillar, through some of the cotton-growing districts.

Letter from the Chamber of Commerce, No. 130, dated 9 July 1861, with accompaniment.

Ditto to ditto, No. 3359, dated 29 July 1861.

Letter from ditto, No. 154, dated 13 August 1861.

Ditto to ditto, No. 3913, of this date.

I have, &c.

Bombay Castle, 5 September 1861.

M. J. Shaw Stewart,
Under Secretary to Government.

III.
Bombay.

— No. 29. —

No. 1383 of 1861.—Political Department.

From Lieutenant Colonel *C. Davidson*, c.B., Resident at Hyderabad, to *M. J. Shaw Stewart*, Esq., Under Secretary to Government, Revenue Department, Bombay; dated Hyderabad Residency, 9 September 1861.

Sir,

I HAVE the honour to acknowledge the receipt of your letter, No. 3914, of the 5th September 1861, and to inform you that the minister has been again addressed on the subject of the transit duties, which the Secretary to the Bombay Chamber of Commerce states, are still levied in the neighbourhood of Barsee; but I beg the Collector of Sholapoor be directed to address me in the event of any transit duties being at any time levied by the authorities of the Nizam's Government in his neighbourhood.

2. I observe that it is the intention of the Bombay Government to depute an officer to accompany any gentleman that may be selected by the Chamber of Commerce, to make a tour during the present season through the cotton districts. If it is the intention that this party should pass through any portion of the Nizam's territory, it is very desirable that they should be also accompanied by an officer deputed by the Hyderabad Government, and I beg that timely notice of their approach may be given to me.

I have, &c.

C. Davidson, Resident.

No. 4131 of 1861.—Revenue Department.

To the Resident at Hyderabad.

Sir,

I AM directed to acknowledge the receipt of your letter, No. 1383, dated the 9th instant, and to inform you that the Collector of Sholapoor has been instructed to the effect suggested in your first paragraph.

2. Adverting to para. 2 of your letter, I am desired to state that this Government has issued the strictest orders that no party accredited by this Government, should proceed to make inquiries on any occasions in the Nizam's dominions, without previous communication with the British resident, and permission obtained from his Highness's Government.

I have, &c.,

Bombay Castle,
23 September 1861.

A. D. Robertson,
Acting Chief Secretary to Government.

— No. 30. —

No. 4129 of 1861.—Revenue Department.

To the Chairman of the Chamber of Commerce, Bombay.

Sir,

No. 1383, dated 9
September 1861.

WITH reference to the letter from this department, No. 3913, dated the 6th September 1861, I am directed to annex copy of a communication from the resident at Hyderabad, and to draw the attention of the Chamber to its second paragraph.

2. Colonel Davidson has been informed that this Government has issued the strictest orders that no party accredited by this Government should proceed to make inquiries on any occasion in the Nizam's dominions without previous communication with the British resident, and permission obtained from his Highness's Government.

I have, &c.

Bombay Castle,
23 September 1861.

A. D. Robertson,
Acting Chief Secretary to Government.

No. 4130 of 1861.—Revenue Department.

A COPY of the above letter to the Chamber of Commerce, and of the one from the resident at Hyderabad, are forwarded to the Revenue Commissioner of the Southern division, with a request that he will draw the attention of the collector of Sholapoor to the first paragraph of Colonel Davidson's letter, and communicate to the officers concerned, the instructions contained in paragraph 2, of the Government letter to the Chamber.

Bombay Castle,
23 September 1861.

A. D. Robertson,
Acting Chief Secretary to Government.

— No. 31. —

No. 1375 of 1861.—Revenue Department.

From the Collector of Hyderabad to the Under Secretary to Government,
Bombay; dated 9 September 1861.

Sir,

WITH reference to your expedite Memorandum No. 3845, dated the 30th ultimo, I have the honour to forward a copy of my report* to the Commissioner in Sind, on the subject of increased cotton cultivation.

* No. 1243, dated
13 August 1861.

I have, &c.

Hyderabad, Collector's Office,
9 September 1861.

W. R. Lambert,
Collector of Hyderabad.

Enclosure in No. 31.

No. 1243 of 1861.—Revenue Department.

From the Collector of Hyderabad to the Commissioner in Sind; dated 13 August 1861.

Sir,

IN reply to your endorsement, as per margin, I have the honour to inform you that the extent of land cultivated with cotton in 1859-60 was 27,000 beegahs. In 1860-61 it was 25,000 beegahs, the fall being due to the increased price obtainable for grain; in 1861-62 it is expected to be about 30,000 beegahs, being an increase of 3,000 beegahs over the cultivation of 1859-60.

No. 1695, dated 2
August 1861, call-
ing for report on the
prospect of in-
creased cotton cul-
tivation during the
current year.

2. The price in Hyderabad, however, is so high (viz., 5 annas 3 pice per seer), that I doubt whether foreign demand has anything to do with the increase.

I have, &c.

Hyderabad, Collector's Office,
13 August 1861.

W. R. Lambert,
Collector of Hyderabad.

— No. 32. —

No. 21 of 1861.

To *W. A. Goldfinch*, Esq., Collector of Dharwar.

Dharwar Cotton Gin Factory,
19 August 1861.

Sir,

I BEG to submit the half-yearly Report of the Dharwar Cotton Gin Factory, for the period ending the 31st May last.

III.
Bombay.

2. The following is a summary of the amount and value of work done by the factory during the above period:

	<i>Rs.</i>	<i>a.</i>	<i>p.</i>	<i>Rs.</i>	<i>a.</i>	<i>p.</i>
Value of 32 driving wheels for 18-saw-gins, including driving straps - - - - -	1,440	-	-			
Value of 8 driving wheels for 10-saw gins, including driving straps - - - - -	292	-	-			
Value of 16 driving wheels for 10-saw gins, without straps - - - - -	544	-	-			
Value of 16 driving wheels for 18-saw gins - - - - -	48	-	-			
Value of repairs effected on old gins - - - - -	237	7	3			
Value of work done in cast-iron gins lately received from England, which consisted in applying wooden bottom frames to them, adjusting them, and in repairing some that broke in the transit - - - - -	86	1	1			
Value of articles, such as bearings, bolts, &c., made on account of the two branch factories of Hurujghy and Gudug - - - - -	591	1	1			
Value of tools and other implements made for the use of the factory - - - - -	40	14	-			
Value of cost of repairing carts carting timber for the factory - - - - -	13	4	3			
				3,292	11	8
Deduct cost of materials - - - - -	1,391	11	3			
Deduct cost of establishment - - - - -	1,641	4	2			
				3,032	15	5
BALANCE in favour of the factory - - - - -				259	12	3

3. The greater part of the work of the factory during the half-year under report, as during the two preceding corresponding periods, consisted in the construction of driving wheels for cast-iron gins expected from England, the effecting of the repair of gins in the vicinity of Dharwar, and preparing of parts of gins, such as bearings, bolts, &c., for the use of the two branch factories constituting the remaining part of its operations.

4. The number of driving wheels prepared during the above period amounted to 56, of which 32 were for 18-saw gins and 24 for 10-saw gins.

5. In April last 50 cast-iron gins of 18 saws were received from England, of which up to this, 38 have been made over to the parties who had previously advanced for them. Those in the list of advances to whom the remaining 12 are due have not yet been forthcoming for them.

6. By a letter received from Dr. Forbes from Egypt, dated the 15th July last, a supply of 50 cast-iron gins of 10 saws may be shortly expected to arrive at Bombay, or may have arrived by this; advances have been received for all of them.

7. I might mention that the cast-iron gins which have already come have been found to work very satisfactorily, and are very much liked by the people.

8. Orders for a further supply of 18, as well as of 10-saw gins, are being received, accompanied with the usual advance of 20 rupees for 18-saw gins, and 10 rupees for one of 10 saws. The number of orders registered up to this, amounts to 26, of which 18 are for 18-saw gins, and 8 for 10-saw gins, and the driving wheels that will be required for them, whenever they should come, have been commenced with.

Hurujghy Branch Factory.

9. Last February was the concluding month of the past year of the Hurujghy Branch Factory, being kept up by contributions from gin holders. It continues to be kept up in the same manner, and the greater part of the contributions for the second year commencing 1st March last, has been collected, the amount raised on each gin being 10 rupees per year.

10. The

10. The number of gins repaired at the branch factory during the half-year under report was as follows, viz. :—

Gins of 20 saws each	-	-	-	-	-	-	3
" 18	"	-	-	-	-	-	18
" 14	"	-	-	-	-	-	4
" 13	"	-	-	-	-	-	1
" 10	"	-	-	-	-	-	35
" 8	"	-	-	-	-	-	2
TOTAL - - -							63

III.
Bombay.

11. The gins that are much out of order are brought to the branch factory for repair. The number of gins thus received has been, especially of late, greatly diminished. But this is only an indication of the improvement in the condition of the gins generally.

12. The minor repair of gins which is effected by travelling parties of workmen, to each of whom a number of gins is assigned to be looked after, remains, from its nature, in amount about the same every year. But during the present year, in the greater part of the districts under the branch factory, most of the gins stopped work earlier than usual, a considerable number, so early as the end of March last. This was owing to a great scarcity of rain in those parts during last season, in consequence of which a very deficient crop of cotton was realised.

13. There is a small part of the districts, however, under the branch factory where the gins work throughout the year, and where it is necessary to have travelling workmen always. In the remaining parts the workmen are withdrawn after it is found that all, or the greater number of the gins have closed work; and this is already the case.

14. The state of the funds of the branch factory is satisfactory. After the expenses of the first year were met, there remained a balance of Rs. 2,286. 14. 7. in the Treasury-box. The receipts since, up to the end of last month, amounted to Rs. 2,769. 0. 7., both together making Rs. 5,055. 14. 7. The disbursements up to the end of the same month amounted to Rs. 2,545. 4. 1. so that there was a balance of Rs. 2,510. 10. 6. on the first of the present month.

15. More money remains to be collected, and the expenses for the remainder part of the year is being greatly curtailed by the reduction of the establishment, now that cotton cleaning operations are for the greater part suspended, and at the branch factory also there is very little work, and likely to continue the case.

16. I may add that the establishment is being curtailed, not by knocking off hands altogether, but by transferring them to the Dharwar Factory, where I have found work for some of them on model carts, of which out of 50 sanctioned by Government to be made, 25 remained to be constructed, and made place for others by discharging a part of the contingent hands. Indeed, with the exception of one or two hands of the branch factory establishment none of the workmen can be discharged. They are old and trained hands (a few apprenticed youths excepted) and the majority of them belong to the travelling establishment, whose services will be again in requisition when the cotton cleaning season returns.

17. As the establishment cannot be reduced to any extent at pleasure, and as at the branch factory there may be little or nothing of the regular work to employ them, at times, as has already been experienced, it becomes necessary to open other sources of occupation for them; the plain course being to undertake all descriptions of work. This plan, while it will secure a return to the funds, must also enlarge the usefulness of the branch factory to the districts. I beg to state that, hoping it will be approved of, I have undertaken the construction of carts, of which there are three making, and other petty work has been received besides. I may mention that the circumstance has been submitted by me to the notice of Dr. Forbes.

III.

Bombay.

Gudug Branch Factory.

18. The more recently established branch factory at Guddug was opened in July 1860, and the plan of maintaining it by contribution from gin-holders was at once adopted, as noticed in a previous report. Last June was the closing month of the first year of its existence.

19. The receipts for the year amounted to Rs.1,070, the expenses to Rs.1,091. 5. 3., so that there was a deficit of Rs.21. 5. 3. This was supplied out of what remained of the subscription money that was collected towards the erection of the branch factory.

20. The amount fixed on each gin was 10 rupees, according to the rate fixed for the gins under the Kurujghy branch factory; but it was, I regret to state, by a wrong estimate of the expenses that it was done. The gins generally under the latter branch factory work about six months in the year, while those under the former work constantly, which I was not aware of until afterwards, so that travelling workmen are required to be retained throughout the year, and not for six months only as I calculated.

21. It was, therefore, by restraining expenses that the contribution-money (the trifling sum by which it fell short being excepted) sufficed. The establishment had to be proportioned with less regard to the varying demands of the work than to the strength of the funds.

22. It would require a sum of about 1,700 rupees to maintain the branch factory, which could be realised by raising the rate of contribution per gin from 10 to 15 rupees.

23. I proposed this increase to the former rate to the assembled gin-holders of the villages under the mamudar of Guddug, and on the necessary explanation being afforded them, and arrangements being come to as to the particular distribution to be made of the villages in assigning them to travelling workmen to look after the gins, and as to other points, they gladly acceded. The gin-holders of this part of the districts deal chiefly, or almost exclusively in cotton. It is an interruption to their work when any interruption arises to the working of their gins; and the present arrangement as providing against this by assigning to each of the travelling workmen a narrower compass than before in which to move, and therefore a smaller number of gins to attend to, was very desirable to them.

24. Of the gins in the districts to which the operations of the branch factory extend, 65 are provided for by the above arrangement. The number there are besides must now amount to about 50. I have little doubt that by following the course mentioned above, I could succeed in getting the owners of the gins to pay the increased rate; but I have not the number of hands, that is, hands sufficiently competent by themselves properly to repair gins that would be required under the arrangement. It must be deferred to the next year. There are hands training both at the Guddug and Kurujghy branch factories, who will by that time very likely acquire the required experience.

25. The plan followed for the gins just mentioned, when any of them are repaired at the branch factory, or workmen sent for by the owners go and repair them where they are located, is to charge for the repairs effected, as was done before the system of contribution was introduced in the districts. The workmen engaged on the gins will, of course, be paid from the Dharwar factory, to which the value of the repairs they have effected will be credited.

26. During the half-year under report, the number of gins repaired at the branch factory, was as follows:—

Gins of 18 saws	5
„ 14 „	1
„ 13 „	1
„ 10 „	7
TOTAL	14

I have, &c.

C. Courpalais,

Mechanical Superintendent in charge Cotton Gin Factory.

STATEMENT, No 1.

COTTON PLANTERS' Report for the Half-year commencing 1 December 1860, and ending 31 May 1861,
in the Dharwar Collectorate.

Talooks.	Prospect of the Season, and State of the Crop as regards each sort of Cotton, showing also what Stations were Visited by the Superintendent.	EXTENT IN ACRES.							
		New Orleans.		Broach.		Total Foreign.		Country Cotton.	
		Extent in Acres.	Estimated Produce in Candies of 784 lbs.	Extent in Acres.	Estimated Produce in Candies of 784 lbs.	Extent in Acres.	Estimated Produce in Candies of 784 lbs.	Extent in Acres.	Estimated Produce in Candies of 784 lbs.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
	Season favourable - -	Acres chs. 1,53,969 2	Cand. lbs. 35,350 28	Acres chs. - -	Cand. lbs. + - -	Acres chs. 1,53,969 2	Cand. lbs. 35,350 28	Acres chs. 2,34,452 28	Cand. lbs. 71,771 185

G I N S.

For Sale in the Factory.	In Use.		Out of Use.		Completed in the Present Half-year.		Being Made		
Belonging to Government.	Belonging to Private Individuals.		Belonging to Private Individuals.		Belonging to Government.		For Government.	For Private Individuals.	
Number and Size of Gins.	Number and Size of Gins.	Talooks.	Number and Size of Gins.	Talooks.	Number and Size of Gins.	Value.	Number and Size of Gins.	No.	Size of Gins.
11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
3 Gins of 20 saws each - 39 Gins of 18 saws each, of cast iron. 2 Gins of 10 saws each, of cast iron. 2 Gins of 4 saws each, of cast iron. 1 Cotton thrasher. 1 Egyptian churkar. 2 Roller gins. 2 Macarthy gins. 52 "	6 Gins of 40 saws each 2 do. of 25 - ditto. 1 do. of 24 - ditto. 13 do. of 20 - ditto. 1 do. of 19 - ditto. 282 do. of 18 - ditto. 11 do. of 18 - ditto of cast iron. 1 Gin of 15 saws. 8 Gins of 14 saws each. 3 do. of 13 - ditto. 230 do. of 10 - ditto. 87 do. of 8 - ditto. 144 do. of 7 - ditto. 787	Unable to state, as the gins are constantly removed about from one talooka to another, and often into the adjacent Madras districts and Enam villages, according to the requirements of the owners.	None I am aware of.		- - None -		1 Cotton cleaning machine. 26 Roller churkars. 32 Driving wheels, and wheel-frames for 18 saw-gins. 24 Driving wheels, and wheel-frames for 10 saw-gins. 1 Gin-frame for 10 saw-gins. 3 Driving wheels, and wheel-frames for 10 saw-gins. 87	-	None.

G I N S.		Profit or Loss to Government, deducting the Cost of European Superintendence.	Total Net Expenses on Account of Experiment from the Commencement to the Close of the Half-year preceding that under Report.	Total Expenses for the Half-year under Report.
Sold for Government during the Half-year under Report.	At what Cost.			
Number and Size of Gins.	22.	23.	24.	25.
21.				
1 Gin of 18 saws - - 11 Gin of 18 saws each, and of cast iron. 12 Add, Value of repairing, &c., to saw-gins, &c.	£. s. d. 170 - - Cost not known at present. 321 3 3	Net profit during the six months under Report, is Rs. 259. 12. 3. as shown in the accompanying abstract statement of cost and returns.	Total expenses - 6,55,471 8 - Total receipts - 2,31,961 10 8 Balance - Rs. 4,23,509 13 4	Total expenses - 5,933 5 - Total receipts - 1,928 14 3 Balance - Rs. 4,004 6 9

Dharwar Cotton Gin Factory,
19 August 1861.

C. Courpalaiz,
Mechanical Superintendent in charge Cotton Gin Factory.

STATEMENT, No. 3.

DETAILED MEMORANDUM of Sums collected during each of the Six Months embraced in the COTTON PLANTERS' REPORT for the Half-year commencing 1 December 1860, and ending 31 May 1861, for Gins sold, and value of Repairs to Gins during that period; also for Repairs to Gins, and Gins sold during the previous Half-year.

MONTHS.	Sums Collected during the present Half-year for Gins sold prior to 1 December 1860.	Sums collected for Gins Sold during the Half-year under Report.	Sums collected during the present Half-year for Repairs made prior to 1 December 1860.	Sums collected for Gins repaired during the Half-year under Report.	TOTAL.
	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>
December 1860 - -	150 - -	40 - -	3 12 -	- 6 -	194 - -
January 1861 - -	- - -	210 - -	- - -	4 2 -	214 2 -
February „ - -	- - -	40 - -	98 15 9	- - -	138 15 9
March „ - -	- - -	20 - -	336 - 6	209 4 -	565 4 6
April „ - -	- - -	20 - -	7 11 11	- 8 -	28 3 11
May - „ - -	- - -	- - -	- - -	- 8 -	- 8 -
TOTAL - - - <i>Rs.</i>	150 - -	330 - -	446 8 2	214 12 -	1,141 4 2

REMARKS.

	<i>Rs. a. p.</i>
Amount collected for sale and repair of saw gins in the six months under report - - - - -	1,141 4 2
Advances received for gins to be disposed of - - - - -	740 - -
Proceeds of the sale of clean cotton and cotton seed - - - -	25 5 1
Ditto - ditto - of remnant unserviceable wood pieces - - -	12 5 -
Amount from artificers for files lost, and for lateness of attendance -	10 - -
<i>Rs.</i>	1,928 14 3

Dharwar Cotton Gin Factory,
19 August 1861.

C. M. Courpalais,
Mechanical Superintendent
In charge Cotton Gin Factory.

STATEMENT, No. 4.

Dr. **ABSTRACT STATEMENT showing the Cost and Return of the COTTON GIN FACTORY, Dharwar Collectorate, from 1 December 1860 to 31 May 1861.**

	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.
By Value of 32 driving wheels for 18 saw gins, with straps	-	-	1,440	-	-	-	-	-	-
" Ditto 8 - ditto - 10 ditto - ditto	-	-	292	-	-	-	-	-	-
" Ditto 16 - ditto - 10 ditto, without straps	-	-	544	-	-	-	-	-	-
" Ditto 16 driving straps, spare, for 18 saw gins	-	-	48	-	-	-	-	-	-
" Value of repairs to saw gins	-	-	-	2,324	-	-	-	-	-
" Value of articles, viz.—Bearings, bolts, &c. prepared and supplied to the branch factories of Kurugly and Gudry	-	-	-	287	7	3	-	-	-
" Value of articles, viz.—Bearings, bolts, &c. prepared and on hand	-	-	-	-	-	-	530	11	10
	-	-	-	-	-	-	126	10	6
Deduct value of articles, bearings, bolts, &c., which were on hand at the close of the last half-year	-	-	-	657	6	4	-	-	-
	-	-	-	66	5	3	-	-	-
By Cost of repairing cart, carting timber for the factory	-	-	-	591	1	1	-	-	-
" Work done in cast-iron gins received from England, in adding a wooden bottom frame, adjusting them, and in repairing some that broke in the transit	-	-	-	13	4	3	-	-	-
	-	-	-	86	1	1	-	-	-
By Cost of tools and implements made for the use of the factory:—	-	-	-	-	-	-	-	-	-
10 Carpenter's chisels	-	-	3	12	-	-	-	-	-
15 Smith's - ditto	-	-	3	12	-	-	-	-	-
7 Ditto - ditto	-	-	14	-	-	-	-	-	-
1 Hammer	-	-	12	-	-	-	-	-	-
1 Screw driver	-	-	12	-	-	-	-	-	-
4 Flyers	-	-	3	-	-	-	-	-	-
1 Screw plate	-	-	1	8	-	-	-	-	-
9 Wrenches	-	-	6	-	-	-	-	-	-
3 Dice for screw plate	-	-	1	8	-	-	-	-	-
12 Bits for braces (carpenter's)	-	-	1	3	-	-	-	-	-
1 Glue pot	-	-	15	3	-	-	-	-	-
2 Moulds for casting wheel bearings for 18 and 10 saw gins	-	-	1	3	-	-	-	-	-
1 Ditto for mending nuts	-	-	1	6	-	-	-	-	-
1 Stamp for marking skins	-	-	1	8	-	-	-	-	-
	-	-	-	40	14	-	-	-	-
	-	-	-	3,292	11	8	-	-	-
To Cost of Establishment:									
Salary of the fixed establishment, exclusive of the allowance to the Mechanical Superintendent	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.
Batta to the fixed establishment, exclusive of the allowance to the Mechanical Superintendent	706	6	2	-	-	-	-	-	-
Wages to the contingent establishment	11	12	6	-	-	-	-	-	-
	923	1	6	164	4	2	-	-	-
To Cost of Materials:									
31 Maund 11 lb. 9 oz. of round iron, of sizes, at Rs. 1. 14, and above, per maund of 28 lb.	59	8	-	-	-	-	-	-	-
67 Ditto 4 8 of square - ditto - at - ditto - per - ditto -	163	5	7	-	-	-	-	-	-
81 Ditto 16 1 of flat - ditto - at - ditto - per - ditto -	115	6	6	-	-	-	-	-	-
6 Ditto 6 8 of sheet - ditto - at Rs. 3. 2, and above, per - ditto -	19	3	6	-	-	-	-	-	-
1 Ditto 2 1 of steel from old files at Rs. 3. 8, and above, per - ditto -	3	12	-	-	-	-	-	-	-
2 Ditto 13 15 of old brass - at Rs. 14, and above, per - ditto -	27	12	-	-	-	-	-	-	-
18 Ditto 17 5 of zinc - at Rs. 3. 8, and above, per - ditto -	67	2	6	-	-	-	-	-	-
57 Ditto 25 11 of iron from broken barrels, at Rs. 11, and above, per maund of 28 lb.	39	12	7	-	-	-	-	-	-
9 gross 1 doz. of screws, of sizes, at various rates	8	11	8	-	-	-	-	-	-
18 He buffalo skins, at Rs. 2. 8 per each	45	-	-	-	-	-	-	-	-
24 She buffalo skins, at Rs. 2, per each	48	-	-	-	-	-	-	-	-
2 Bullock skins, at Rs. 1. 12 per ditto	3	8	-	-	-	-	-	-	-
50 Circular saws of 10 inches, at Rs. 1. 2. 4, each	57	4	8	-	-	-	-	-	-
313½ Pura of charcoal, at 8 pura per rupee	39	3	6	-	-	-	-	-	-
14 oz. of bristles, at Rs. 3. 12 per lb.	3	4	6	-	-	-	-	-	-
2 oz. of brass wire, at Rs. 1, per lb.	2	-	-	-	-	-	-	-	-
67½ Honey logs, measuring 255 cubic feet 15½ inches, at Rs. 4, and under per foot	313	11	10	-	-	-	-	-	-
10 Muthy ditto, measuring 212 cubic feet 6½ inches, at Rs. 8, and under per foot	106	4	5	-	-	-	-	-	-
Baubool blocks for 60 wheel naves	22	15	6	-	-	-	-	-	-
Wear and tear of 52 files, weighing 44 lb. 11½ oz., at 12 annas per lb.	33	5	7	-	-	-	-	-	-
83 Koolas of country iron	15	-	-	-	-	-	-	-	-
	-	-	-	1,192	6	4	-	-	-
To Cost of Sundry Expenses:									
December 1860	24	9	1	-	-	-	-	-	-
January 1861	26	13	11	-	-	-	-	-	-
February	23	13	1	-	-	-	-	-	-
March	38	-	6	-	-	-	-	-	-
April	48	-	8	-	-	-	-	-	-
May	34	15	8	-	-	-	-	-	-
	-	-	-	199	4	11	-	-	-
To Profit to Government for the Half-year	-	-	-	-	-	-	3,032	15	6
	-	-	-	-	-	-	259	12	3
	-	-	-	-	-	-	3,292	11	8

Dharwar Cotton Gin Factory
19 August 1861.

C. A. Guralpait,
Mechanical Superintendent in charge Cotton Gin Factory.

STATEMENT, No. 5.

DETAILED MEMORANDUM of the Numbers, Size, and Value of Gins Made and Sold during the Half-year ending 31 May 1861, and the balance of Cotton Machines in store.

		MACHINES.																			
		Gins of 20 saws.		Gins of 18 saws.			Gins of 18 saws of cast-iron.			Gins of 10 saws.		Gins of 4 saws.		Cotton Thrasher.		Roller gins.		Egyptian Churka.		Macarthy Gins.	
		Number.	Value.	Number.	Value.	Value recovered.	Number.	Value.	Value recovered.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
			Rs.		Rs.	Rs.		Rs.	Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Number which were on hand at the close of the last half-year		3	—	1	—	—	—	—	—	2	—	2	—	1	—	2	—	1	—	2	—
Ditto completed during the present half year		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Ditto received from England		—	—	—	—	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
TOTAL		3	—	1	—	—	50	—	—	2	—	2	—	1	—	2	—	1	—	2	—
Deduct,																					
Number sold in the present half-year.		—	—	1	170	150	11	—	220	—	—	—	—	—	—	—	—	—	—	—	
Balance of cotton machines on hand except those being made		3	—	—	—	—	39	—	—	2	—	2	—	1	—	2	—	1	—	2	—

STATEMENT, No. 6.

STATEMENT of GINS Sold during the Half-year ending 31 May 1861.

MONTHS.	DESCRIPTION OF GINS.				TOTAL.		REMARKS.
	Of Saws, 18 each.		Of Saws, 18 each, of Cast-iron.				
	Number.	Amount.	Number.	Amount.	Number.	Amount.	
		Rs. s. p.		Rs. s. p.		Rs. s. p.	
December 1860	1	170 - -	-	-	1	170 - -	
January 1861	-	-	-	-	-	-	
February 1861	-	-	-	-	-	-	
March 1861	-	-	-	-	-	-	
April 1861	-	-	1	-	1	-	{ Cost of cast-iron gins not known at present.
May 1861	-	-	10	-	10	-	
TOTAL	1	170 - -	11	-	12	-	

STATEMENT, No. 7.

STATEMENT showing the Number of CARTS Made and Sold under the authority of Government Resolution, No. 4597, dated 8 August 1853, received with the Revenue Commissioner, Southern Division's Memorandum, No. 2125, dated 11 August 1853, during the Half-year ending 31 May 1861, in the Dharwar Collectorate.

Number of Carts authorised to be Constructed by Government Resolution, No. 4597, dated 8 August 1853.	Number of them Constructed up to the Half-year ending 30 November 1860.		Number Sold up to the Half-year ending 30 November 1860.		Number of Carts Constructed during the Half-year under Report.		Number of Carts Sold during the Half-year under Report.		Balance remaining on Hand at close of the Half-year under Report.		Number of Carts being made at the close of the Half-year under Report.	
	No.	At what Cost.	No.	At what Price.	No.	At what Cost.	No.	At what Price.	No.	Value.	No.	Cost.
		Rs. s. p.		Rs. s. p.		Rs. s. p.		Rs. s. p.		Rs. s. p.		Rs. s. p.
50	25	1,066 7 11	25	912 6 —	—	—	—	—	—	—	—	—

(signed) C. A. Courpaluis,
Mechanical Superintendent in charge Cotton Gin Factory.

Dharwar Cotton Gin Factory, 19 August 1861.

III.
Bombay.

— No. 33. —

(No. 164 of 1861.)

To *M. J. Shaw Stewart*, Esq., Under Secretary to Government, Revenue Department, Bombay.

Bombay Chamber of Commerce, Bombay,

Sir,

6 September 1861.

By direction of the Committee of the Chamber of Commerce, I have the honour to acknowledge receipt of your Letter, No. 3866, dated 31 August, and 3877, dated 2d September, both referring to the subject of the prizes advertised by Government for the production of cotton.

The communication of the Chamber suggesting a modification of the terms on which the prizes should be awarded in this Presidency, being under the consideration of the Governor in Council, the Committee propose to defer drawing up rules for competition until the decision of Government may be received as to whether the prizes should be given for growing, or for marketing the finish cotton.

I have, &c.

H. Brooke, Secretary.

— No. 34. —

No. 4644 of 1861.—Revenue Department.

To *H. Brooke*, Esq., Secretary to the Chamber of Commerce, Bombay.

Sir,

With reference to Mr. Under Secretary Stewart's Letter, No. 3877, dated the 2d ultimo, I am directed to annex for the information of the Chamber of Commerce, copy of a Resolution this day passed by Government on the subject of prizes for the purpose of stimulating and improving the cultivation of cotton, wherein His Excellency in Council has determined to break up the sum of ten thousand rupees (10,000) sanctioned by the Government of India into

Four Prizes of Rupees, 1,000 each.

Ditto	-	ditto	700	„
Ditto	-	ditto	500	„
Ditto	-	ditto	300	„

to be offered for the following varieties of cotton separately:—

- 1st. Guzerat indigenous cotton.
- 2d. Khandesh indigenous cotton.
- 3d. Deccan and Southern Mahratta country indigenous cotton.
- 4th. Foreign varieties, such as American, Egyptian, Sea Island, &c.

2d. As laid down in the Resolution of the Government of India, dated 9th August last, I am to request whether the Chamber of Commerce will be so good as to undertake the task of awarding the prizes to be allotted in this Presidency, and if they will do so, to beg that they will favour Government with the subsidiary rules which they consider should be laid down to regulate the conditions under which the rewards are to be competed for.

I have, &c.

A. D. Robertson,

Acting Chief Secretary to Government.

Bombay Castle,
24 October 1861.

Enclosure in No. 34.

MEMORANDUM.

EACH of the authorities whose names or official designations are noted below, is to understand that the following copy or extract of Resolution (together with any papers that may be appended) is sent for his information, or for his information and guidance, as the case may be, and for the issue of such subsidiary orders as may appear necessary for giving effect to the views of Government.

No. 4643 of 1861.—Revenue Department.

To The Revenue Commissioner, Northern Division.
 „ The Revenue Commissioner, Southern Division.
 „ The Commissioner in Sind.

COPY of the RESOLUTION passed by Government on a letter from the Chamber of Commerce, No. 164, dated 6 September 1861.

Bombay Castle, 24 October 1861.

HAVING consulted Mr. Goldfinch and others who could advise Government with respect to the best mode of disposing of the reward of 10,000 rupees, which the Government of India have authorised, in their Resolution of the 9th August 1861, to be offered during the next two years as a prize, for the purpose of stimulating and improving the cultivation of cotton, His Excellency in Council finds that they, as well as the Chamber of Commerce, are all agreed in considering that Government will best meet the object in view by breaking up the amount into several prizes, to be given in each of the principal cotton-growing districts, of this Presidency, instead of offering one large reward, the award of which would have little, if any, effect upon the general cultivation of a presidency whose cotton lands are situated at distances so remote, and so great in extent, that were but one prize given, few beyond the district in which the reward would be obtained, would hear, much less believe, that it had been given. Moreover, the amount, if one prize only were given, is so disproportioned to the amount of capital which would be employed by any single competitor, and so much beyond the efforts he would make, that it would be waste of money to bestow it all upon any one individual.

2. As observed by the Chamber of Commerce in their letter of the 24th August 1861, the season was too far advanced when the rewards were determined upon to aid in carrying out the object expressed in para. 3 of the Resolution, viz., “to expedite the solution of the doubts which exist as to the best soils and climates and modes of cultivation for cotton in those districts, whence heretofore there has been little, if any, export of cotton to Europe;” and as the sowings for the present season had already taken place, the only object with which the prizes for this year can be distributed, is to encourage the picking, clearing, and bringing the crop to market in the best possible manner.

3. But as the main design with which the reward is offered, is to direct the attention of all interested in the cultivation of cotton to improvement of the quality, it is desirable that the competition should be restricted to the *bonâ fide* cultivators of the staple, and that care should be taken to exclude those who would cultivate a holding in the hope merely of gaining a prize, and who would afterwards relinquish the culture; for were such a competitor to obtain the reward, it would have no effect in stimulating those to whom, in this Presidency at least, we must always look for the bulk of the supply of the home market,—viz., the ryot cultivator.

4. To be of any practical good, therefore, the reward must be secured to the actual cultivators, and should be distributed in such a manner as to produce the greatest stimulus among this class.

5. With this view, the Chamber of Commerce should be informed that Government consider the 10,000 rupees should be divided into four equal sums, and that separate rewards should be offered for the four following descriptions of cotton, grown by *bonâ fide* cultivators, i. e. persons occupying a Government holding or a plot of alienated land at the commencement of the revenue year, viz. :—

- 1st. Guzerat indigenous cotton.
- 2d. Khandesh indigenous cotton.
- 3d. Deccan and Southern Mahratta country indigenous cotton.
- 4th. Foreign varieties, such as American, Egyptian, Sea Island, &c.

III. Bombay.

And that four prizes for each variety or description will be offered, the 1st prize to be one of 1,000 rupees; the 2d to be 700 rupees; the 3d to be 500 rupees; and the 4th to be 300 rupees. There will thus be,—

	Rs.
Four prizes of 1,000 rupees	4,000
Ditto - - 700 „	2,800
Ditto - - 500 „	2,000
Ditto - - 300 „	1,200
TOTAL	Rs. 10,000

6. The prizes should be competed for under the conditions laid down in para. 5 of the Resolution of the Government of India, with the following exceptions:—

Condition B. The districts which will be considered to have a claim to compete for the prizes to be given to each description, will be as follows:—

1st. For Guzerat Indigenous:

Surat, Broach, the Guicowar's districts, Kaira, Ahmedabad, and Kattiawar.

2d. For Khandesh Indigenous:

Khandesh and Berar.

3d. For Deccan and Southern Mahratta Country Indigenous:

Sholapoor, Ahmednugger, Belgaum, Sattara, and Dharwar.

4th. For foreign varieties:

The whole Presidency, including Berar, the Guicowar's districts, and Kattiawar.

Condition C. As the time of sowing is past, and the rewards cannot now stimulate increased cultivation, the limit of the holdings may be reduced to half the size proposed by the Government of India, *i. e.* to 15 acres, all belonging to one cultivator.

I have, &c.,

A. D. Robertson,

Acting Chief Secretary to Government.

— No 35. —

No. 5368 of 1861—Revenue Department.

To Revenue Commissioner, D.

Sir,

WITH reference to the Resolution passed by Government, under date the 24th October last, No. 4643, relative to the prizes to be given with the view of stimulating and improving the cultivation of cotton, I am directed to forward, for your information and consideration, copy of a letter from the Secretary to the Chamber of Commerce, No. 190, dated the 25th ultimo.

2. His Excellency in Council desires me to request you will adopt early measures for giving effect, in the most complete manner possible, to the orders of the Governor General in Council, and the instructions of this Government.

3. A similar letter has been addressed to the Revenue Commissioner, Division.

I have, &c.

A. D. Robertson,

Acting Chief Secretary to Government.

Bombay Castle,
17 December 1861.

Enclosure in No. 35.

(No. 190 of 1861.)

To A. D. Robertson, Esq., Acting Chief Secretary to Government, Bombay.

Sir,

By direction of the Committee of the Chamber of Commerce, I have the honour to acknowledge the receipt of your letter, No. 4644 of 1861, dated 24th October, referring to the cotton prizes offered by Government.

The

The Committee have given the subject careful consideration, but have been unable, without interference with the rules laid down by the Government of India, to devise any practical means by which the cotton produced for competition could, after leaving the place of growth, be identified as the *bonâ fide* produce of a certain holding. Without such identification the prizes would fall probably to the most ingeniously dishonest rather than to the most painstaking cultivator; and the Committee, therefore, are of opinion that Rule E. of the Government Resolution should be so modified as to require that the cotton itself should be sampled, if possible, by a European officer of Government at the place of growth, and that the sample should then be sealed and forwarded to the Chamber, accompanied by a certificate that the cultivator had complied with the rules laid down by Government for competition.

The Chamber will be happy to report on the samples thus sent in to them, and there will be no difficulty in at once awarding the prizes.

Rule G. also appears to be inapplicable to the present modified prizes, as it can hardly be expected that natives cultivating only 15 acres of land will be sufficiently intelligent to furnish any practical or intelligible account of the system pursued or expenses incurred. Such information as supplied by them would be calculated rather to mislead than to enlighten the public. The Government officials, however, to whom the drawing of the samples may be entrusted, might perhaps with advantage be instructed to make inquiries as to these points, and to transmit the result of these to the Chamber, with such remarks as their experience might suggest; their knowledge of the people and of the districts would doubtless enable them to eliminate, from the ryot's statements, any information of value or interest.

The only subsidiary rule that would appear necessary would be that the samples should be carefully drawn, and should not be less than 10 pounds weight for each variety of cotton tendered for competition.

Bombay, 25 November 1861.

I have, &c.

H. Brooke, Secretary.

— No. 36. —

No. 5369 of 1861—Revenue Department.

To H. Brooke, Esq., Secretary to the Chamber of Commerce, Bombay.

Sir,

I AM directed to acknowledge the receipt of your letter, No. 190, dated the 25th ultimo, relative to prizes to be given with the view of stimulating and improving the cultivation of cotton, and to annex, for the information of the Chamber of Commerce, copy of my letter of this date, No. 5368, to the Revenue Commissioner, Northern Division.

I have, &c.

A. D. Robertson,

Acting Chief Secretary to Government.

Bombay Castle,
17 December 1861.

— No. 37. —

No. 18 of 1861—Revenue Department.

To Her Majesty's Principal Secretary of State for India in Council, London.

Right Honourable Sir,

WITH reference to the correspondence ending with the Despatch from the late Honourable the Court of Directors, No. 5, dated the 17th June 1857, we have the honour to submit copy of a letter from the Commissioner in Sind, No. 324, dated the 29th ultimo, on the subject of the erection of screw presses at Kurrachee and Mooltan.

We have, &c.

George Clerk,
W. R. Mansfield,
H. W. Reeves,
W. E. Frere.

Bombay Castle, 27 December 1861.

III.
Bombay.

Enclosure in No. 37.

No. 324 of 1861—Revenue Department.

From *J. D. Inverarity*, Esq., Commissioner in Sind, to his Excellency the Honourable
Sir *George R. Clerk*, K.C.B., Governor and President in Council.

Honourable Sir,

I HAVE the honour to acknowledge receipt of Mr. Acting Chief Secretary Robertson's letter, No. 4984, dated 18th instant, with which was forwarded abstract of correspondence on the subject of the establishment of screw presses on the part of Government at Kurrachee and Mooltan, and in which I am requested to report what has been done towards meeting the instructions of the Court of Directors with regard to affording the trade at Mooltan and at Kurrachee the aid of Government screw presses, and what are the prospects of efficient screw presses being set up by private enterprise at these two places.

2. In reply, I beg to report that the abstract forwarded for my information shows that in the prospect of the erection of screw presses at Kurrachee, by private enterprise, no measures have been taken on behalf of Government to supply such accommodation to the mercantile community.

3. On the 25th instant, I requested the Chairman of the Chamber of Commerce at this port to favour me with such information as the Chamber could afford in regard to the number and description of presses already at work in Kurrachee, and in regard to the prospect of additional screws being set up here, or in regard to the establishment by private enterprise of new screw presses at Mooltan, Kotree, or Sukkur. In reply, Mr. A. Stewart, chairman, by direction of the Committee of the Chamber of Commerce, has supplied the following information:—

“With regard to the screwing accommodation at Kurrachee, a company, called the Kurrachee Press Company, has been in existence for the past 18 months. Its capital is very large, it having been formed not only to meet the present, but the future wants of the port. The presses which this company have in use are the common capstan presses, which have been found amply sufficient so far to meet the requirements of the port. During the past 12 months the amount pressed has been from 4,000 to 5,000 patent bales of wool, cotton, hemp, &c. As the company expect a great extension of their business, they have sent instructions to England to purchase two of the most approved patent steam presses, both of which will screw about a hundred bales per diem. Should these not be found sufficient for the wants of the place other presses will be ordered.

“2. With regard to presses at Mooltan, Sukkur, and Kotree, the Committee of the Chamber are of opinion that these are not wanted. They consider it would be most objectionable for cotton to arrive in Kurrachee in pressed bales, as no merchant would purchase it, unless he were convinced of the quality by personal examination. The present cost of carriage from Mooltan to Kurrachee for unpressed cotton, is only two rupees a maund of 82 lbs., and the Committee of the Chamber are of opinion that any difference in the cost of carriage on pressed bales would be fully counterbalanced by the price which the cotton would realize. Though objecting to bales being pressed at Mooltan, the Committee of the Chamber would strongly recommend the use of wooden boxes, similar to what are used in Guzerat. The bales turned out of these boxes are very heavy and bulky; still, as the carriage is entirely by water, this would not be of much consequence, and the cotton would not be so liable to damage as it is at present. The Committee of the Chamber cannot help at the same time expressing their opinion, that the real reason for Punjab cotton not finding its way to Kurrachee for sale, is not the cost of carriage, but the inferior quality of the cotton, it being quite unsaleable in England, except in a very excited market. If a superior quality could be grown, there is no reason why it should not be as remunerative a trade for native dealers to send it to Kurrachee for sale in common unpressed bales as it is for dealers to send it from Oomrawutty or Dharwar to Bombay.”

4. A perusal of the foregoing shows that Kurrachee is not in want of Government aid in the erection of screw presses, a private company having undertaken their establishment according to the requirements of the place, and that the inferior quality of Punjab cotton, and not the cost of carriage, interferes with its ready sale in the English, and consequently in the Kurrachee market.

Commissioner's Office, Kurrachee,
29 November 1861.

I have, &c.

J. D. Inverarity,
Commissioner in Sind.

— No. 38. —

No. 5 of 1862.—Revenue.

Sir, India Office, London, 8th February 1862.

1. I HAVE to acknowledge the receipt of the letter from your Excellency in Council, dated the 27th December last, No. 18, from which I learn that there now exist ample means for screwing cotton at Kurrachee, which can be increased to any extent that may be found requisite; and that, in the opinion of the Chamber of Commerce at that port, no presses are required at Mooltan, Sukkur, and Kotree.

2. A copy of Mr. Inverarity's letter has been forwarded for the information of the Cotton Supply Association of Manchester.

His Excellency the Honourable the
Governor in Council, Bombay.

I have, &c.
Charles Wood.

— No. 39. —

No. 1 of 1862—Revenue Department.

To Her Majesty's Principal Secretary of State for India in Council, London.

Right Honourable Sir,

WE beg to forward by this mail 22 copies of the work which, at our request, Mr. Walter Cassels has prepared, in compliance with the Resolution of the Government of India, dated the 22d July 1861, with the view of placing before the public all the information relative to the production and supply of cotton from this Presidency, which the records of this Government and other available sources afford.

2. It will be evident that considerable research was requisite for the proper execution of this work, and this Government consider themselves fortunate in having secured the services of Mr. Cassels, who has so ably and comprehensively submitted the results of his disinterested labours, which cannot, we think, be too highly appreciated, and demand our best thanks.

3. The comments on the information which has been obtained from the records of Government, and on the question of the redemption of the land assessment, we beg to observe, are Mr. Cassels' own.

4. A supply of the work will be forwarded by next mail, for distribution and sale.

We have, &c.

*George Clerk,
W. R. Mansfield,
H. W. Reeves,
W. E. Frere.*

Bombay Castle, 13 January 1862.

HALF-YEARLY REPORT of the GOVERNMENT FACTORY at Dhurrumgaum, ending 30th November 1861.

Number.	NAMES.	Station.	Remarks on the past Season, as to how far anticipations regarding the Crops and their disposal are realised.	Quantity of Capps in hand on Account of Government, of each sort, Ginned or not Ginned.				Supposed Proportion of Last Year's Crop which has been Cleaned in Saw-gins, or will be Cleaned.			
				New Orleans.	Broach.	TOTAL.	Country.	New Orleans.	Broach.	TOTAL.	Country.
1	2	3	4	5	6	7	8	9	10	11	12
1	Dhoolia - - -	1	The past was a very favourable season for the cultivation of Cotton and all kinds of grain, and the yield throughout the Province is said to be very large. The rain having fallen heavily in some of the Districts, just when the pods were opening, damaged and discoloured the Cotton greatly.	-	-	-	-	-	-	-	-
2	Amulnair - - -	1		-	-	-	-	-	-	-	-
3	Bettawood - - -	-		-	-	-	-	-	-	-	-
3	Errundole - - -	-		-	-	-	-	-	-	-	-
	Cassodah - - -	1		-	-	-	-	-	-	-	-
	Dhurrumgaum - - -	1		-	-	-	-	-	-	-	-
	Puldee - - -	1		-	-	-	-	-	-	-	-
4	Bhurgaum - - -	-		-	-	-	-	-	-	-	-
5	Challisgaum - - -	-		-	-	-	-	-	-	-	-
6	Malligaum - - -	-		-	-	-	-	-	-	-	-
7	Baglan - - -	-		-	-	-	-	-	-	-	-
8	Pimpulnair - - -	-		-	-	-	-	-	-	-	-
9	Nundoorbar - - -	-		-	-	-	-	-	-	-	-
10	Sooltanpoor - - -	-		-	-	-	-	-	-	-	-
11	Thulnair - - -	-		-	-	-	-	-	-	-	-
12	Chopra - - -	-		-	-	-	-	-	-	-	-
	Arrawood - - -	-		-	-	-	-	-	-	-	-
13	Yawull - - -	-		-	-	-	-	-	-	-	-
14	Sowda - - -	1		-	-	-	-	-	-	-	-
15	Nusserabad - - -	-		-	-	-	-	-	-	-	-
	Julgaum - - -	-		-	-	-	-	-	-	-	-
16	Jamnair - - -	1		-	-	-	-	-	-	-	-
17	Parolee - - -	1		-	-	-	-	-	-	-	-
	Khaumgaum - - -	1		-	-	-	-	-	-	-	-
TOTAL - -		-	-	-	-	-	-	-	-	-	-

Number.	NAMES.	G I N S.									Amount expended in the Construction of Gins.
		In Use.		Out of Use.		Completed.		Sold for Government.			
		Belonging to Government.	Belonging to Private Individuals.	Belonging to Government.	Belonging to Private Individuals.	Belonging to Government.	Belonging to Private Individuals.	Number.	For what Amount.		
		13	14	15	16	17	18	19	20	21	
1	Dhoolia - - -	-	-	-	2	-	-	-	-	-	
2	Amulnair - - -	-	-	-	2	-	-	-	-	-	
3	Bettawood - - -	-	-	-	-	-	-	-	-	-	
	Errundole - - -	-	-	-	-	-	-	-	-	-	
	Cassodah - - -	-	-	-	-	-	-	-	-	-	
	Dhurrumgaum - -	8	1 cattle power machine.	50; unused	1 cattle power machine; 53 gins.	-	-	-	-	-	
	Puldee - - -	-	1 cattle power machine; 53 gins.	-	-	-	-	-	-	-	
4	Bhurgaum - - -	-	-	-	-	-	-	-	-	-	
5	Challisgaum - - -	-	-	-	-	-	-	-	-	-	
6	Malligaum - - -	-	-	-	-	-	-	-	-	-	
7	Baglan - - -	-	-	-	-	-	-	-	-	-	
8	Pimpulnair - - -	-	-	-	-	-	-	-	-	-	
9	Nundoorbar - - -	-	-	-	-	-	-	-	-	-	
10	Sooltanpoor - - -	-	-	-	-	-	-	-	-	-	
11	Thulnair - - -	-	-	-	-	-	-	-	-	-	
12	Chopra - - -	-	-	-	-	-	-	-	-	-	
	Arrawood - - -	-	-	-	-	-	-	-	-	-	
13	Yawull - - -	-	-	-	-	-	-	-	-	-	
14	Sowda - - -	-	-	-	-	-	-	-	-	-	
15	Nusserabad - - -	-	-	-	-	-	-	-	-	-	
	Julgaum - - -	-	-	-	4	-	-	-	-	-	
16	Jamnair - - -	-	-	-	-	-	-	-	-	-	
	Parolee - - -	-	-	-	-	-	-	-	-	-	
17	Khaumgaum - - -	6	2 cattle power machines: 52 gins.	-	2	-	-	-	-	-	
TOTAL - -		14	5	50	13	-	-	-	-	-	

HALF-YEARLY REPORT of the GOVERNMENT FACTORY at Dhurrungaum, ending 30th November 1861—*continued*.

NAMES.	Other Items of Expenditure during the Half-year under Report.									
	Purchasing and Ginning of Cotton.	Contingencies.	Buildings.	Temporary Establishment.	Amount of Superintendence.	Amount of Establishment.	Total Amount.	Amount Expended up to the last Half Year.	Total Expended up to the Half Year under Report.	Total Receipts up to the Half Year under Report.
	22	23	24	25	26	27	28	29	30	31
Dhoolia - - -	-	-	-	-	-	-	-	1,770 3 4	1,770 3 4	-
Amulnair - - -	-	-	-	-	-	-	-	1,984 12 8	1,984 12 8	-
Bettawood - - -	-	-	-	-	-	-	-	2,299 2 11	2,299 2 11	-
Errundole - - -	-	-	-	-	-	-	-	849 6 11	849 6 11	-
Cassodah - - -	-	-	-	-	-	-	-	442 14 2	442 14 2	-
Dhurrungaum - - -	-	3 2 5	28 1 11	-	-	708 - -	739 4 4	137,674 9 1	138,413 13 5	118,698 3 9
Puldee - - -	-	-	-	-	-	-	-	-	-	-
Bhurgaum - - -	-	-	-	-	-	-	-	-	-	-
Challisgaum - - -	-	-	-	-	-	-	-	-	-	-
Malligaum - - -	-	-	-	-	-	-	-	-	-	-
Baglan - - -	-	-	-	-	-	-	-	-	-	-
Pimpulnair - - -	-	-	-	-	-	-	-	-	-	-
Nundoorbar - - -	-	-	-	-	-	-	-	4,161 12 -	4,161 12 -	-
Sooltanpoor - - -	-	-	-	-	-	-	-	212 15 3	212 15 3	-
Thulnair - - -	-	-	-	-	-	-	-	380 9 8	380 9 8	-
Chopra - - -	-	-	-	-	-	-	-	15,563 5 8	15,503 5 8	-
Arrawood - - -	-	-	-	-	-	-	-	2,491 11 11	2,491 11 11	-
Yawull - - -	-	-	-	-	-	-	-	4,343 7 -	4,343 7 -	-
Sowda - - -	-	-	-	-	-	-	-	35 8 -	35 8 -	-
Nusserabad - - -	-	-	-	-	-	-	-	1,018 2 11	1,018 2 11	-
Julgaum - - -	-	-	-	-	-	-	-	23,160 13 9	23,160 13 9	-
Jamnair - - -	-	-	-	-	-	-	-	2,280 15 7	2,280 15 7	-
Parolee - - -	-	-	-	-	-	-	-	-	-	-
Khaumgaum - - -	-	-	-	-	-	-	-	-	-	-
TOTAL - - Rs.	-	3 2 5	28 1 11	-	-	708 - -	739 4 4	198,670 6 10	199,409 11 2	118,698 3 9

REMARKS.

The past half-year not being the working season, no work has been done in the Government Factory, except keeping the gins and machines in repair. Since the 1st November the cleaning of cotton has commenced, and 14 saw-gins belonging to Government, and four cattle-power machines and five saw-gins, belonging to private individuals, have been kept constantly at work.

Applications are constantly made for the use of gins, but the want of shelter, and the difficulty in procuring labourers to work them, even at the enhanced wages of four annas per diem, precludes the possibility of making use of more.

One gin of 20 saws lent to the Khunur Agent is included.

Government Factory, Dhurrungaum,
1 December 1861.

A. Mackenzie,
Superintendent Government Factory.

— No. 41. —

(No. 3 of 1862.)

To A. D. Robertson, Esq., Acting Chief Secretary to Government Territorial
Department, Revenue, Bombay.

Sir,

It has been brought to the notice of the Committee of the Chamber of Commerce, that the Government establishments at Broach and Surat, for the examination and stamping of cotton bales, have been, or are about to be, abolished, and I am instructed to address you on the subject.

The Government supervision, which is now about to be discontinued, was brought into active operation in 1850, chiefly through the energy of the late Mr. J. M. Davies, and has continued to produce the most salutary and marked effect in raising the character of the Broach cotton, which, from being the most adulterated, has become the most pure of the native seeded cotton.

By reference to Letter No. 7185 of 1850, addressed by the Chief Secretary to Government to the Chamber of Commerce, it will be found that a regularly organised system of fraud existed in the packing of cotton for the Bombay market, the average adulteration having been found, on careful examination, to amount to about one-third of the weight. The consequence was that trade in the article became in a measure suspended, and it was justly feared that this important branch of commerce would be greatly curtailed.

III.
Bombay

After considerable discussion between Government and the Chamber of Commerce, it was resolved to put in force Regulation III. of the Act of 1829, and the chief leaders in the frauds were fined or imprisoned, and the cotton confiscated, but subsequently released. The effect, however, was almost instantaneous; frauds in the packing of cotton at once ceased, and, as already said, from being the most adulterated, Broach cotton became the best cotton in the market. This superiority has since been maintained.

As the object to be attained by the abolition of the Government supervision is doubtless financial economy, the respectable dealers at Broach and Surat have suggested that a small fee per bale should be levied by the Government inspectors, and that the establishment should thus be maintained. They express their entire willingness to meet such a charge, in preference to being exposed to a renewal of the frauds which previously rendered their trade so hazardous.

Beyond this, however, it appears to the Committee of the Chamber of Commerce to be at the present moment of vast importance that every effort should be made, not only to preserve the character which this, the purest of Indian cottons, has already obtained, but to endeavour by every means to improve its quality, and that of other growths; the Committee, therefore, view with the greatest alarm the withdrawal of the Government supervision, which has hitherto been so beneficial, and they trust that the Government will consent to maintain the existing establishments, either at their own cost, or in the manner above suggested.

I have, &c.

H. Brooke, Secretary.

Bombay Chamber of Commerce, Bombay,
20 January 1862.

— No. 42. —

(No. 361.)

RESOLUTION.

THE former practice of examining and stamping cotton bales should be resumed. The expense is to be defrayed by the levy of a fee from the cotton dealers, and the duty performed by special establishments, as proposed by the Chamber of Commerce. It is understood that the fee will be paid voluntarily by the dealers.

2. The above arrangement will continue in force only until an Act shall be passed sufficient for all purposes, as the supervision is a duty which belongs to the dealers, and not to Government.

Ordered that the above be communicated to the Collector of Surat, the Sub-Collector of Broach, and the Police Commissioner, Northern Division.

J. B. Peile,

30 January 1862.

Acting Under Secretary to Government.

— No. 43. —

No. 603 of 1862—Revenue Department.

To *H. Brooke, Esq.*, Secretary to the Bombay Chamber of Commerce.

Sir,

I AM directed to inform you that his Excellency in Council, after having considered the letter No. 3, dated 20th ultimo, from the Chamber of Commerce, with a view to further legislation, as contemplated in the second paragraph of resolution of Government of the 30th ultimo, is unable to perceive that further legislation is either requisite or possible.

2. I am desired to observe, that the Chamber of Commerce have recorded their opinion that the laws already in force have been effectual in suppressing the evil of which they complain, and that it is only owing to some relaxation in the energies of the police that frauds are again becoming frequent. All, then, that appears to his Excellency in Council to be now called for, is renewed exertion on the part of the police; and as the Chamber of Commerce state that the respectable dealers at Surat and Broach have suggested that an establishment should be maintained, paid for by a small fee levied on every bale, the superintendents of police at those two ports will be directed to place themselves in communication with the merchants there, and ascertain what establishment the subscriptions or fees from the merchants will maintain, and, if possible, organize a sufficient establishment at each place.

3. You are requested to state whether there are any other ports where it appears to the Chamber of Commerce that it would be desirable that the superintendents of police should try to place similar establishments, the dealers paying the expenses.

I have, &c.

J. B. Peile,

Acting Under Secretary to Government.

Bombay Castle,
15 February 1862.

III.
Bombay.

— No. 44. —

EXTRACT from the Proceedings of Government in the Judicial Department.

No. 133 of 1862—Revenue Department.

From *S. Mansfield*, Esq., Police Commissioner, Northern Division, to
A. D. Robertson, Esq., Acting Chief Secretary to Government, Bombay.

Police Commissioner's Office, Camp Sattara,
12 February 1862.

Sir,

WITH reference to the Government Resolution, No. 361, * dated 30th ultimo, directing that "the former practice of examining and stamping cotton bales should be resumed," I have the honour to forward herewith, for the information of his Excellency in Council, a copy of the correspondence which led to the discontinuance of that practice, and to state that I am unable to credit the statements contained in the letter of the Secretary to the Chamber of Commerce, dated 20th ultimo, No. 3, that the machinery employed to detect fraud in the packing of cotton at the various bunders has had the effect therein described. If fraud has so entirely ceased, it is owing to other causes.

Extract from the Diary of the Superintendent of Police, Broach, for March 1861, forwarded to Magistrate, No. 260, dated 16th April 1861.

From Magistrate, No. 699, dated 12th November 1861, with accompaniment.
To ditto, No. 732, dated 19th November 1861.

I have, &c.

S. Mansfield, Police Commissioner, N. D.

Enclosure 1, in No. 44.

EXTRACT from the Diary of the Superintendent of Police, Broach, for March 1861.

A HAVILDAR of the police is stationed here, who (in conjunction with the police patell at Tankaria) is entrusted with the examination of the cotton bales brought down to the bunder for shipment, to ascertain, by probing with an iron rod, that they are free from stones and rubbish placed as makeweights—after which he stamps and passes them. This interference with private property is hardly warrantable by law; at all events, it does not seem to me a work to be imposed on the police. The present arrangement, I should say, must also be completely ineffective; accusations of taking bribes are constantly preferred against the havildars placed on this duty, and, in fact, it is publicly believed that a toil is systematically demanded, and given on each bale. These havildars are constantly relieved, but this can do but little good; and, to say the least, it is unfair to expose an employé, in the receipt only of 10 rupees per mensem, to so much temptation.

* Reported from the Revenue Department, with entry No. 170, for January 1862.

III.
Bombay.

(No. 260 of 1861.)

True Extract forwarded to the Magistrate of Broach, for report (to be written below).

THE Police Commissioner will be obliged by a copy of the correspondence, if any, which led to the practice above referred to.

Bombay, 16 April 1861.

A. D. Robertson,
for Police Commissioner, N. D.

Enclosure 2, in No. 44.

(No. 699 of 1861.)

Broach, Joint Magistrate's Camp, Sookulteeruth, 12 November 1861.

IN reply to the above, the second assistant magistrate, in charge joint magistracy, has the honour to report, that by Guzeratee order, 8th March 1851, of Mr. J. M. Davies, first assistant magistrate of Broach, a carkoon was appointed to examine the cotton at Tankaria Bunder, on a salary of Rs. 4. 4. In his place, the same officer appointed, by order 20th September 1852, a jemadar to conduct the duties.

2. From that date to the present, some police officer, aided by the village patell, is supposed to have examined the bales of cotton.

3. In 1859, a Guzeratee correspondence commenced, by a reference of Mr. Arthur, first assistant magistrate, to Mr. Tucker, magistrate. Mr. Arthur recommended that the practice of examination should be stopped, but if this were not agreed to, that a well-paid establishment should be entertained. It ended by Mr. Tucker begging that this latter proposal might be made in English at the beginning of the ensuing cotton season.

4. At that time, therefore, Mr. E. P. Robertson wrote letter, No. 3 of 1860, dated 9th February, to Mr. J. E. Oliphant. Copy of this, with J. E. Oliphant's reply, is annexed.

5. The second assistant magistrate in charge agrees entirely with Mr. E. P. Robertson and Captain Palin. The practice gives unlimited opportunity to bribery, and places Government in a most undignified position before the native merchants, who see its officers not daring to touch (and quite rightly) a European merchant's bales, but opening and detaining theirs.

A. A. Borrodaile,
Second Assistant Magistrate in charge.

Enclosure 3, in No. 44.

(No. 3 of 1860.)

From E. P. Robertson, Esq., Acting First Assistant Collector, to J. E. Oliphant, Esq.,
Acting Collector of Broach.

First Assistant Collector's Office, Broach,
9 February 1860.

Sir,

Piercing and stamp-
ing of cotton.

WITH reference to the subject in the margin, and the Guzeratee papers herewith forwarded, I have the honour to request you will inform me whether it is your wish that I should make an application, as suggested by Mr. Tucker, for a temporary establishment.

2. While asking this, I would at the same time state that the practice of stamping and piercing cotton appears to me to be a work at once unnecessary and objectionable;—unnecessary, as by so doing we do not insure that the cotton is unadulterated, and it is not for one moment to be supposed that the cotton dealers in Bombay take any notice whatever of the stamp; objectionable—

1st. Because it is unsanctioned by any legal enactment, and our officers dare not pierce and stamp the cotton of any merchant who might object.

2d. A considerable quantity of cotton remains unattached to the piercer, and this is taken as a perquisite by the Government servants employed.

3d. And this I think the most serious objection. The practice throws the temptation to bribery in the way of the Government servants so employed.

3. I would therefore respectfully suggest that, before applying for any extra establishment, Government should make some inquiries to discover whether the system is approved of by the cotton merchants of Bombay, and, in the event of their giving a favourable answer, it will then be time enough to apply for an extra establishment.

I have, &c.

E. P. Robertson,
Acting First Assistant Collector.

III.
Bombay.

Enclosure 4, in No. 44.

(No. 417 of 1860.)

To *J. W. Stack*, Esq., Acting First Assistant Collector.

Broach, Collector's Office,
24 July 1860.

Sir,

ADVERTING to your predecessor's letter, No. 3 of 1860, dated 9th February, I have the honour to intimate, that so far from considering any increase of establishment necessary, I concur with Mr. Robertson in considering the practice of piercing and stamping cotton bales to be objectionable, and would prefer seeing it altogether discontinued. In returning the accompanying Guzeratee papers, I have the honour to request that matters be left as they are until further instructions.

I have, &c.

J. E. Oliphant, Acting Collector.

Enclosure 5, in No. 44.

(No. 732 of 1862.)

From *S. Mansfield*, Esq., Commissioner of Police, Northern Division, to the Joint Magistrate, Broach.

Police Commissioner's Office, Tannah District, Camp
Oolwa, 19 November 1861.

Sir,

IN reply to your report of the 12th instant, No. 699, I have the honour to intimate that the practice of piercing and stamping the cotton bales at Tankaria Bunder, and at any other places where prevalent, may be discontinued.

I have, &c.

S. Mansfield,
Police Commissioner, Northern Division.

— No. 45. —

RESOLUTION of Government, dated 24 February 1862.

THE Police Commissioner may be reminded that the continuance of the supervision is to depend entirely on the pleasure of the dealers, who are to defray the expense. The objections here submitted are first, that the Bombay merchants attach no value to the supervision; and, secondly, that it is compulsory and partial. But the first argument is disproved by the urgent application of the Chamber of Commerce that the process should be resumed, and the second will, under the present instructions of Government, have no foundation. If the cotton traders find anything objectionable in the supervision, they will, of course, cease to support it.

(No. 883 of 1862.)—Revenue Department.

COPY of the above Resolution forwarded to the Commissioner of Police, Northern Division.

3 March 1862.

J. B. Peile,
Acting Under Secretary to Government.

III.
Bombay.

— No. 46. —

(No. 27 of 1862.)

To *J. B. Peile*, Esq., Under Secretary to Government, Bombay.

Sir,

* Reported from
the Revenue De-
partment, with
entry No. 297, for
February 1862.

By direction of the Committee of the Chamber of Commerce, I have the honour to acknowledge receipt of your letter, No. 603 of 1862,* dated 15th February, with reference to the resumption of the practice of stamping bales of cotton by the police authorities, and inquiring whether, in the opinion of the Chamber, this practice should, if possible, be extended to other ports.

The Committee have no hesitation in stating their belief that the extension of this system would be found of very great benefit to those principally concerned, viz. the producers and dealers in the superior qualities of East Indian cotton.

It is generally believed that inferior saw-ginned Khandeish cotton has been this season, to a very large extent, fraudulently substituted by dealers having contracts to deliver Dharwar saw-ginned cotton, a very superior description, the produce of American seed.

It is also a well-established fact, that cotton grown in the Deccan and Khandeish, and of comparatively indifferent quality, is systematically passed off as Oomrawuttee cotton, a superior kind grown in Berar.

As an effectual remedy for so unsatisfactory a state of matters, the Committee suggest the appointment of inspectors at the principal railway stations, shipping ports, and other convenient points of transit, with power to stamp the bags of cotton, as they pass, with the name of the locality whence they have come.

By means also of these inspectors, infringements of Regulation III. of 1829 could be brought to light and the offenders punished.

Should it be found inadvisable to adopt this suggestion of the Chamber to its full extent, the Committee would at all events respectfully impress on Government, as soon as the transfer of North Canara to this Presidency is completed, the urgent necessity of bringing the provisions of the above regulation into force in compta, where, it is believed, fraudulent adulteration of cotton is a recognised avocation.

I have, &c.

H. Brooke, Secretary.

Bombay Chamber of Commerce,
Bombay, 10 March 1862.

(No. 1055 of 1862)—Revenue Department.

TRANSFERRED for final orders to Judicial Department, with a request that the result may be communicated, and papers returned to this department.

B. H. Ellis,

Acting Chief Secretary.

Bombay Castle,
12 March 1862.

— No. 47. —

(No. 2399.)

(No. 1137 of 1862.)—Judicial Department (No. 2399)..

To *H. Brooke*, Esq., Secretary to the Chamber of Commerce.

Sir,

I AM desired by his Excellency the Governor in Council, to acknowledge the receipt of your letter, to Mr. Peile's address, of the 10th ultimo, No. 27.

2. The Chamber of Commerce, in your previous letter of the 20th January, referred to the compulsory system of examining and stamping cotton bales, as introduced by the late Mr. J. M. Davies, and ascribed to it the improvement which has taken place in the quality of the Broach cotton. The Chamber stated that it had been brought to their notice, that the establishments kept up for this purpose were about to be abolished, and that they viewed with alarm the withdrawal of the Government supervision, and trusted that the Government would consent to maintain the system, either at the public expense, or from

from the proceeds of a small fee to be levied on each bale of cotton, as proposed by the respectable dealers at Broach and Surat.

3. In reply to this letter, you were informed that it only appeared necessary to call for renewed exertions on the part of the police, and to carry out the proposal of the cotton dealers at Broach and Surat to maintain, at their own expense, an establishment for examining and stamping cotton bales.

4. In your letter now under acknowledgment, you refer to the "resumption of the practice of stamping bales of cotton by the police authorities;" and as it appears from this that the duties of the police are not clearly understood by the Chamber of Commerce, I am directed to communicate the views of Government as follows:—

5. The duties of the police are clearly laid down in Act XXV. of 1861. Section 133 of that Act debars the police from taking any part in the examination or stamping of bales of cotton, except when a magistrate, knowing or supposing that an offence against the law has been committed, shall issue a search-warrant to a police officer.

6. It follows, therefore, that the officers of police can in no way interfere in the operations of the establishment which the respectable dealers of Broach and Surat propose to maintain.

7. The operations of this establishment should rather, his Excellency in Council conceives, be confined to the examination of the bales of such merchants as may consent to have their bales examined, and to the stamping of so many of these bales as the persons employed may see fit to stamp after examination. The stamp so affixed would become a "trade mark," and the fraudulent use of all "trade marks" is punishable under the Penal Code (Sections 480 to 488). The fees from which this establishment is maintained will be levied only from such bales as are brought for examination.

8. His Excellency the Governor in Council does not consider that the Government should be mixed up in any way with these operations. Serious complications would arise if Government were to undertake the duty of examining bales of cotton and affixing trade-marks; and if the Government commences to examine cotton bales, it might as well be called on to stamp bales of wool, of linseed, or any other products liable to be adulterated.

9. These measures should be left entirely to the merchants themselves, and any enactments which may be considered necessary to make the supervision effective should be brought forward in the local Legislature. His Excellency in Council will be glad that they should be proposed by any of the non-official additional members of the Council for the purpose of making laws and regulations.

10. I am further desired to state that the Governor in Council will afford any facility to the Chamber in carrying out, as a private measure, the proposed inspection of bales at the principal railway stations, ports, and points of transit; but this plan cannot be started as a public measure of the Government.

11. The magistrates throughout the Presidency will always be ready to carry out the procedure provided by law, whenever any offence against the law is brought to their notice.

12. With reference to the last paragraph of your letter, I am desired to state, for the information of the Chamber of Commerce, that a bill for extending to North Canara the provisions of Regulation III. of 1829 will be brought forward as a Government measure, at the next session of the Council for the purpose of making laws and regulations.

I have, &c.

M. J. Shaw Stewart,
Acting Secretary to Government.

Bombay Castle,
7 April 1862.

COPIES forwarded to the Commissioners of Police, Northern and Southern Divisions, with reference to the endorsement in the Revenue Department, No. 604, dated 16th February 1862. The Police Commissioners are requested to convey the instructions of Government to the police superintendents. Copies of this correspondence have been sent direct to the magistrates.

III.
Bombay.

— No. 48. —

(No. 3208).

Judicial Cons.
May 1862.

EXTRACT from the Proceedings of Government in the Judicial Department.

From the Commissioner of Police, Northern Division, dated 15 April 1862,
No. 369.

Sir,

Broach Acting Joint Magistrate's letter, No. 256,
dated 5 April 1862.

Reply, No. 368, dated 14 April 1862.

Khandeish Magistrate's letter, No. 697, dated
26 March 1862, with accompaniment.

Reply, No. 367, dated 14 April 1862.

WITH reference to your letter to the address of the Chamber of Commerce,* on the subject of the fraudulent packing of cotton, I have the honour to forward copies of correspondence as per margin.

2. Government will observe that the magistrates of the important cotton districts of Broach and Khandeish are fully prepared to enforce the law for the prevention of cotton adulteration.

Police Commissioner's Office,
Tannah District,
Mahim, 15 April 1862.

I have, &c.,
B. H. Ellis,
Commissioner of Police, N. D.

Enclosure 1, in No. 48.

(No. 3209).

(No. 256 of 1862)—Judicial Department.

From *E. W. Ravenscroft*, Esq., Acting Joint Magistrate of Broach, to *B. H. Ellis*, Esq.,
Police Commissioner, Northern Division.

Sir,

I SEE repeatedly, in the English newspapers, complaints of the quality and packing of the cotton sent from India. More stress, however, is laid on the fact that much fraud is perpetrated in the packing of the bales than that the cotton itself is intrinsically bad. These complaints are re-echoed by the Bombay merchants, and I see that at the last meeting of the Bombay Legislative Council, the Honourable Mr. Scott asked whether Government intended to interfere in the matter. The President of the Council then explained that the law† in force was quite ample, as it severely punished any person packing or offering for sale cotton fraudulently deteriorated, and the magisterial authorities were quite prepared to carry out the law fully and promptly.

2. As joint magistrate in charge of a large cotton-growing and cotton-exporting district, Government will not, I trust, think me presumptuous in bearing out the latter part of the Honourable Mr. Frere's assertion, and in offering the few following remarks, more particularly as regards the words used by the Honourable Mr. Frere:—"The merchants have the remedy in their own hands, for if they will only unite to bring the offenders forward, Government will take care that the law is enforced."

3. There are in this joint magistracy but two ports of shipment for cotton—namely, Tankaria and Broach. At each of these ports carkoons are placed by Government, whose sole duty it is to test every bale of cotton,‡ prior to its being shipped for export, and to stop any bale that, on being examined, appears to be fraudently packed. Any such bale is directly sent to the joint magistrate, who, should he think Regulation 3 of 1829 has been infringed, at once indicts the parties concerned and puts them on their trial. It is absurd to suppose that Government can do more than this; but the merchants, who are the persons really interested, might do a great deal of good by making some arrangement to see that the carkoons performed their duties in an honest and thorough manner. If the allegations of the merchants that the cotton reaches England in a dirty and fraudulently packed state are true, the only inference to be drawn is, that the carkoons perform their duty in a perfunctory manner. If this is the case, there has seldom happened an opportunity where it is more easy to apply a remedy to the evil. If the merchants really are as energetic in practically looking after their own interests, as they are in publicly enlisting sympathy on their behalf, they might easily depute trustworthy agents, to be present, one at Tankaria and

* No. 1137, dated 7 April 1862, reported with Despatch No. 28, of 1862, dated 11 April.

‡ By Government orders, bales of cotton examined in the territories of his Highness the Guicowar, and brought into this joint magistracy for shipment, are not examined here if they bear the stamp of the Guicowar's government.

† Regulation 3 of 1829.

and one at Broach, during the testing of every bale. Should these agents really perform their duty properly, further complaints could not be made.

4. I may add, in conclusion, that every care has been taken to impress on the minds of the native officials, and the dealers and packers of cotton in the joint magistracy, that every infringement of Regulation 3 of 1829 will be severely punished, and it was only on the 3d instant that a man was convicted of this offence before me.

III.
Bombay.

Acting Magistrate's Camp,
Meligaum, Broach
Districts, 5 April 1862.

I have, &c.,
E. W. Ravenscroft,
Acting Joint Magistrate.

Enclosure 2, in No. 48.

(No. 368 of 1862.)

From *B. H. Ellis*, Esq., Commissioner of Police, Northern Division, to *E. W. Ravenscroft*, Esq., Acting Joint Magistrate of Broach.

Police Commissioner's Office, Tannah Districts,
Naudgaum, 14 April 1862.

Sir,

WITH reference to your letter, No. 255, of 5th instant, I would request your attention to the instructions of Government, communicated to you under date the 7th instant, consequent on a letter from the Chamber of Commerce. Fraudulent packing of cotton.

2. You will perceive that it is held to be no part of the duty of Government to maintain establishments for the examination and stamping of cotton bales, but that it is essentially the duty of its officers to detect all breaches of the law, and to punish offenders with a severity which will deter them from the commission of similar offences.

3. A copy of your letter will be forwarded to Government for information.

I have, &c.,
B. H. Ellis,
Commissioner of Police, N. D.

Enclosure 3, in No. 48.

(No. 694 of 1862.)

From *L. R. Ashburner*, Esq., Magistrate, to *G. F. Sheppard*, Esq., First Assistant Magistrate.

Khandeish, Magistrate's Camp,
Pachora, 26 March 1862.

Sir,

I HAVE the honour to request you will proceed to Challisgaum and enforce the provisions of Regulation 3 of 1829 with the greatest severity. You will find, by causing a quantity of Khandeish cotton to be cleaned by a pinjara and dried in the sun, that it contains from 10 to 20 per cent. of dirt, and from 5 to 10 per cent. of moisture. Berar cotton contains rather less than the above percentage, but still the amount of adulteration is large, and it has now become more than ever necessary to put a stop to this injury to the most important staple of the country. It will be necessary to take some pains to ensure that the penalty shall fall on the person who is most to blame for this adulteration. This person is the wakharia, who purchases cotton from the cultivator while it is still ungrown, and prepares it for the market. The holders of Berar cotton having been guilty of the adulteration out of British territories, must be tried, under Clause 2 of Section 1, for fraudulently offering for sale or selling it when so deteriorated, or a certain quantity of the cotton may be confiscated and burnt under Clause 2, Section 2; but the whole Regulation is applicable to inhabitants of Khandeish.

2. As this Regulation has hitherto been quite overlooked, and the cotton dealers been encouraged in their frauds by the impunity they have enjoyed, it will be sufficient to punish the first offence leniently, but they should be warned that a second conviction will be punished with greater severity. I would beg to remind you, that Section 2 requires frauds to be punished with fine and imprisonment. For the first offence the imprisonment should be nominal.

3. I request you will take similar measures with the cotton at Naudgaum as well as that exported by the Malligaum and Bombay road. A few years of continued vigilance will, it is hoped, improve the character of the staple, and render it fit for the European markets, where the great objection to Bombay cotton is not so much its short staple and natural inferiority as the unmarketable state in which it is exported. It was not until Regulation 3

III.
Bombay.

of 1829 had been enforced in Broach, that any improvement took place in the state in which cotton was exported from that market; the higher prices now quoted for Broach cotton are chiefly due to exertions that were made in that province, a few years ago, to put a stop to adulteration. There is little or no natural difference between Broach cotton and that grown in Khandeish: both are the produce of black soil of similar qualities; but Broach cotton now fetches 220 rupees per candy, and Khandeish cotton only 190 rupees per candy. The difference is owing to the superior condition in which the cotton reaches the market.

I have, &c.,

L. R. Ashburner, Magistrate.

Enclosure 4, in No 48.

(No. 697 of 1862.)

From *L. R. Ashburner*, Esq., Magistrate, to *B. H. Ellis*, Esq., Police Commissioner, Northern Division.

Sir,

Khandeish, Magistrate's Camp,
Pachora, 26 March 1862.

As the measures I am about to take for the suppression of cotton adulteration and the improvement of the staple will occasion much discontent and outcry of oppression, I have the honour to forward, for your information, copy of a letter I have addressed to the Assistant Magistrate of the Khandeish Zillah on this subject.

I have, &c.,

L. R. Ashburner, Magistrate.

Enclosure 5, in No. 48.

(No. 367 of 1862.)

From *B. H. Ellis*, Esq., Commissioner of Police, Northern Division, to *L. R. Ashburner*, Esq., Magistrate of Khandeish.

Sir,

Police Commissioner's Office, Tannah Districts,
Naudgaum, 14 April 1862.

I HAVE the honour to acknowledge the receipt of a copy of a letter* you have addressed to your assistant at Malligaum, directing the enforcement of the law against the adulteration of cotton.

2. Since you issued your orders, a discussion on the subject has taken place in the Legislative Council, and Government have stated their views in a letter† to the Chamber of Commerce.

3. The proceedings in the Legislative Council will have assured you of the correctness of your view in determining to enforce Regulation 3 of 1829, while the letter of Government explains the extent to which the interference of the magistrate and the police should be carried.

4. It is, perhaps, hardly necessary for me to remind you that the punishment first inflicted on the revival of a long-dormant enactment should be lenient. I observe that, although you announce your intention of enforcing the law with severity in future, you have very properly directed your assistant not to punish too severely at first.

5. A copy of your letter to your assistant will be forwarded to Government.

I have, &c.,

B. H. Ellis,
Commissioner of Police, N. D.

* Letter No. 694, dated 26 March 1862, submitted with letter No. 697, dated 26th idem.

† Judicial Department, No. 1137, dated 7 April 1862.

— No. 49. —

(No. 3210).

No. 1498 of 1862.—Judicial Department.

To *H. Brooke*, Esq., Secretary to the Chamber of Commerce.

Sir,

IN continuation of my letter, No. 1137, dated 7th instant, to your address, I have the honour, by direction of his Excellency the Governor in Council, to forward, for the information of the Chamber of Commerce copy of a communication and enclosures from the Commissioner of Police, Northern Division, showing the measures adopted for the prevention of cotton adulteration.

I have, &c.,

Bombay Castle,
5 May 1862.

M. J. Shaw Stewart,
Acting Secretary to Government.

No. 1499 of 1862.—Judicial Department

(No. 3211.)

To *B. H. Ellis*, Esq., Commissioner of Police, Northern Division.

Sir,

Bombay Castle, 5 May 1862.

I HAVE the honour, by direction of his Excellency the Governor in Council, to acknowledge the receipt of your letter and enclosures, No. 369, dated 15th ultimo, showing the measures adopted for the prevention of cotton adulteration, and to state, that copy has been furnished to the Chamber of Commerce at Bombay.

I have, &c.

M. J. Shaw Stewart,

Acting Secretary to Government.

— No. 50. —

Judicial Consultation, May 1862, No. 3654.

From the Resident at Hyderabad, dated 3 May 1862, No. 468.

Sir,

Hyderabad Residency, 3 May 1862.

I HAVE the honour to enclose copies of the correspondence, noted in the margin, between the Magistrate of Khandeish, and the officiating Commissioner, Hyderabad Assigned Districts, and myself, regarding measures proposed for adoption, to prevent the adulteration of cotton, and thereby improve its marketable value.

No. 741, dated 2 April 1862, from the Magistrate of Khandeish.
No. 666, dated 17 April 1862, from the Resident, in reply.
No. 646, dated 14 April 1862, to the Commissioner H. A. Districts.
No. 388, dated 23 April 1862, from the Commissioner H. A. Districts, with enclosure.

2. With every wish to co-operate with Mr. Ashburner in promoting the object he has in view, I very much question whether the arbitrary measure he contemplates would not have a directly opposite tendency, and there can be little doubt he would be doing a great injury to the traffic of the railway, and be acting illegally in intercepting the transit of Berar cotton through the Khandeish collectorate.

3. I must, therefore, beg that the instructions of the Bombay Government on the subject, may be issued to Mr. Ashburner, and that he may be restrained from giving effect to intentions fraught with so much evil. The harpies of peons and chupprasses required to enforce the collector of Khandeish's orders, would be ten times as obstructive to the cotton trades as all the alleged transit duties in the Hyderabad territory; moreover, I consider any orders, having in view the prevention of the adulteration of cotton, should be carried out in Bombay itself, where the cotton exported from Berar is offered for sale, and not during its transit to that port.

I have, &c.

C. Davidson, Resident.

Enclosure 1, in No. 50.

(No. 3655.)

(No. 741 of 1862.)

From *L. R. Ashburner*, Esq., Magistrate of Khandeish, to Colonel *C. Davidson*, Resident at Hyderabad.

Sir,

Khandeish, Magistrate's Office, Loharra,
2 April 1862.

I HAVE the honour to request you will invite the co-operation of his Highness the Nizam's Durbar, in putting a stop to the adulteration and false packing of cotton exported through Khandeish; you are aware that the adulteration of cotton, by exposing it to the dew, and putting dirt, stones, and leaf into it, is rendered penal by Regulation III. of 1829, and I have now given orders that this law is to be enforced, and with the greatest strictness. I shall be unable to punish exporters of cotton from his Highness the Nizam's territory for adulteration, but I have ordered that they shall be tried under section I., clause 2, for selling it when so adulterated; or if the act of sale cannot be proved, a few hundred rupees worth of the cotton will be seized and burnt under section II., clause 2; if, however, his Highness will undertake to punish the adulteration, it will be unnecessary for me to take such a strong measure as this.

III.
Bombay.

2. Some Berar cotton I lately examined, contained about $7\frac{1}{2}$ per cent. of moisture, and about the same quantity of dirt.

3. The short staple and natural inferiority of Indian cotton is not so much objected to by English manufacturers, as the very dirty and unmarketable state in which it reaches them; if it were clean, the Bombay cotton is suited from its staple to a very large proportion of the cloths manufactured in Manchester; but in addition to the loss of weight by adulteration, which is said to average 25 per cent., much expense is incurred in cleaning the cotton previous to manufacture, and as the fibre is often rotten from damp, and much leaf cannot be separated from the cotton, the cloths when manufactured are necessarily inferior.

4. A few years ago, the cotton exported from Guzerat was very much adulterated; but Regulation III. of 1829, having been strictly enforced, the quality of cotton has very much improved, and I find Broach cotton now quoted at 122 rupees per candy, while that at Khandeish stands at 91 rupees; the cotton is in both cases of the same natural quality; both are the produce of black soil of similar properties; I have every confidence, that a few years of persevering severity will produce a marked improvement in the quality of Khandeish cotton.

5. One of the most mischievous forms of adulteration is caused by the carelessness of the cultivators in mixing leaf with it while picking the cotton; any measures for the improvement of the staple must enforce care in this process; but the class who are to blame for the rotten fibre, dirt, &c. &c., are the merchants who extract the seed and prepare the cotton for the market; if their establishments are visited at night, the whole of the cleaned cotton will be found spread out so as to imbibe the very largest quantity of dew in the morning; it is hastily piled into heaps, and packed in bales as soon as possible.

6. I shall feel obliged by your causing it to be made public, that the owners of all cotton passing through Khandeish, containing more than 5 per cent. of adulteration, will be liable to fine and imprisonment under Regulation III. of 1829, and that the cotton will also be liable to confiscation.

I have, &c.

L. R. Ashburner, Magistrate.

Enclosure 2, in No. 50.

To the Magistrate of Khandeish.

Sir,

Hyderabad Residency, 17 April 1862.

Political Department.

IN acknowledging the receipt of your letter of the 2d instant, No. 741, regarding the adulteration and false packing of cotton exported through Khandeish, I beg to transmit, for your information, the accompanying copy of a note received from his Highness the Nizam's Minister, in reply to a reference which I made to him on the subject, and to request that you will be so good as to furnish me with the proclamation alluded to by you, with a view to its being promulgated for general information.

2. I beg to add, that I have also addressed the officiating Commissioner of the Hyderabad Assigned Territories on the subject of your letter under acknowledgment, with a request that he will take measures to prevent, as far as possible, the sale of adulterated cotton, and would suggest your placing yourself in communication with the Commissioner.

3. I doubt whether it would be legal to interrupt the transit of cotton, however much adulterated, by railway through Khandeish, although this might be different if it was stored there, and offered there for sale; I believe that bales of cotton might be entered as rubbish, and the railway would be obliged, as carriers, to take them to their destination, so long as the charges demanded for carriage were duly paid.

I have, &c.

C. Davidson, Resident.

Enclosure 3, in No. 50.

To the Officiating Commissioner, Hyderabad Assigned Territories, Karinjah.

Sir,

Political Department.

I AM directed by the Resident to transmit, for your information, the accompanying copy No. 741, dated 2 April 1862, on the subject of the adulteration and false to para. 2, of the same.
packing of cotton exported through Khandeish.

I have, &c.

A. R. Thornhill,

1st Assistant Resident.

Enclosure 4, in No. 50.

III.
Bombay.

General Judicial, No. 388.—Department, No. 50 of 1862.

From Captain *W. Cadell*, Officiating Commissioner, H.A.T., to Major *A. R. Thornhill*,
First Assistant Resident, Hyderabad, dated Camp Papul, 23 April 1862.

Sir,

I HAVE the honour to forward copy of a letter from the magistrate of Khandeish, asking me to co-operate with him in measures which he considers calculated to improve the cotton in Berar. Judicial.

2. No one is more alive than myself to the very great importance of obtaining a better species of Indian cotton; but as I differ entirely from Mr. Ashburner regarding the measures to be taken, I beg to refer the question for the consideration of the Resident.

3. As I have not a copy of the Bombay regulations, I am unable to refer to the law quoted by the magistrate of Khandeish, but which at any rate is not applicable to the assigned districts.

4. The criminal law in force here is the Penal Code, and under it any fraudulent adulteration of cotton, or any other produce, can be punished.

5. It will be seen from the fifth paragraph of the magistrate's letter, that he refers to careless picking as one of the most mischievous forms of adulteration, and proposes to make the ryots more careful by enforcing criminal penalties, not against them, but against the innocent purchaser.

6. The more carefully the cotton is prepared for the market, the higher price will it bring, and this would appear to be the natural incentive to improved agriculture, while any Government interference in the matter by threats of criminal proceedings appears to me to be mischievous.

7. Should the magistrate of Khandeish, as he proposes, seize and burn cotton, not as clean as it might be, I need scarcely say that such a panic would be caused, that the export of cotton through Khandeish would cease. I doubt very much whether Mr. Ashburner has legally the power to stop goods in transit through his district; but however this may be, I trust he will be strictly prohibited from interfering in any way with the Berar cotton on its way to Bombay, in order that the lamentable consequences which would arise from such interference may be prevented.

I have, &c.

W. Cadell,
Officiating Commissioner, H.A.T.

Enclosure 5, in No. 50.

(No. 740 of 1862.)

From *L. R. Ashburner*, Esq., Magistrate of Khandeish, to the Commissioner of
West Berar, Booldanah.

Khandeish, Magistrate's Camp, Loharra,
2 April 1862.

Sir,

I HAVE the honour to invite your co-operation in the important measure of putting a stop to the adulteration and false packing of cotton exported through Khandeish. You are aware that the adulteration of cotton by exposing it to the dew, and putting dirt, stones, and leaf into it, is rendered penal by Regulation III. of 1829, and I have now given orders that this law is to be enforced, and with the greatest strictness. I shall be unable to punish exporters of Berar cotton for adulteration, but I have ordered that they shall be tried under section I., clause 2, for selling it when so adulterated, or if the act of sale cannot be proved, a few hundred rupees worth of the cotton will be seized and burnt under section II, clause 2; if, however, you will undertake to punish the adulteration, it will be unnecessary for me to take such a strong measure as this.

2. Some Berar cotton I lately examined contained $7\frac{1}{2}$ per cent. of moisture, and about the same quantity of dirt.

3. The short staple and natural inferiority of Indian cotton is not so much objected to by English manufacturers as the very dirty and unmarketable state in which it reaches them; if it were clean, the Bombay cotton is suited from its staple to a very large proportion of the cloths manufactured in Manchester, but in addition to the loss of weight by adulteration, which is said to average 25 per cent., much expense is incurred in cleaning the cotton previous to manufacture, and as the fibre is often rotten from damp and much leaf cannot be separated from the cotton, the cloths when manufactured are necessarily inferior.

III.
Bombay.

4. A few years ago the cotton exported from Guzerat was very much adulterated, but Regulation III. of 1829 having been strictly enforced, the quality of the cotton has very much improved; and I find Broach cotton now quoted at 122 rupees per candy, while that of Khandeish stands at 91 rupees; the cotton is in both cases of the same natural quality; both are the produce of black soil of similar properties. I have every confidence that a few years of persevering severity will produce a marked improvement in the quality of Khandeish cotton.

5. One of the most mischievous forms of adulteration is caused by the carelessness of the cultivators in mixing leaf with it while packing the cotton; any measures for the improvement of the staple must enforce care in this process; but the class who are to blame for the rotten fibre, dirt, &c., are the merchants who extract the seed and prepare the cotton for the market; if their establishments are visited at night, the whole of the cleaned cotton will be found spread out so as to imbibe the very largest quantity of dew; in the morning it is hastily piled into heaps, and packed in bales as soon as possible.

6. I shall feel obliged by your causing it to be made public that the owners of all cotton passing through Khandeish containing more than 5 per cent. of adulteration, will be liable to fine and imprisonment, under Regulation III. of 1829, and that the cotton will also be liable to confiscation.

I have, &c.

L. R. Ashburner, Magistrate.

(No. 3655A.)

RESOLUTION of Government, dated 15 May 1862.

THIS might be submitted for early report to the police commissioner, with an expression of the hope of Government, that the instructions on the subject, with the secretary's endorsement of the 7th April, have led Mr. Ashburner to avoid the injudicious interference contemplated by him in his letter to the commissioner at Berar.

— No. 51. —

(No. 3656.)

No. 1765 of 1862—Judicial Department.

To *W. Hart*, Esq., Commissioner of Police, S. D.

Sir,

Bombay Castle, 29 May 1862.

I AM instructed to forward to you for early report the correspondence noted in the margin, regarding measures proposed for adoption to prevent the adulteration of the Berar and Khandeish cotton; and to express the hope of Government that the instructions on a similar subject, forwarded with my endorsement of the 7th April last,* have led Mr. Ashburner to avoid the injudicious interference contemplated by him in his letter to the commissioner at Berar.

Letter from the Resident at Hyderabad to the Government, with enclosures, No. 468, dated 3 May 1862.

* Reported with Despatch No. 28 of 1862, dated 11 April.

I have, &c.

M. J. Shaw Stewart,
Acting Secretary to Government.

— No. 52. —

(No. 111 of 1862.)

To *A. D. Robertson*, Esq., Acting Chief Secretary to Government, Bombay.

Bombay Chamber of Commerce, Bombay,

Sir,

30 September 1862.

By direction of the committee of the Chamber of Commerce, I have the honour to bring to your notice the frequent robberies of cotton which take place in the Broach and Surat Rivers, after the Pattimars have cleared at the Custom-house. These robberies are now matters of common notoriety, and are of sufficient importance to call for effective measures of repression.

It has been suggested that a permanent local water police force should be established, and, to meet the expense, it is proposed that an export fee of two annas per bale should be levied on the export, clearance being granted at the port of shipment.

I am

I am directed further to call your attention to the fact, that since the discontinuance of the Government supervision at Broach, the adulteration with seed, &c., has constantly gone on increasing, and Broach cotton, which formerly ranked above saw-ginned Dharwar, has now declined to a lower position than Dhollera cotton; the relative present values being Dharwar saw-ginned, 610 rupees; Dhollera, 425 rupees; and Broach, 400 rupees.

The respectable portion of the trading communities at Broach and Surat are not believed to be implicated in these frauds, and would, it is confidently expected, gladly see their suppression, but they are powerless to effect it without the interference or support of Government in the matter. A general impression prevails that if all bales were required to be passed by the municipality, and stamped and numbered, inferior cotton being left unstamped, an improvement in the quality and character of the cotton would result; one anna per bale might be levied for this object. Merchants could then confine their contracts to stamped cotton, and the numbering of the bales would furnish a ready means of ascertaining which of the officials had passed inferior cotton, if such had been the case.

The committee further venture to suggest that if a Commission, formed partly of Government officers, and partly of merchants, were appointed to investigate the whole question of adulteration of produce, much light would be thrown on the subject, and future legislation greatly facilitated.

I have, &c

H. Brooke, Secretary.

— No. 53. —

No. 3834, of 1862.—Revenue Department.

To *H. Brooke*, Esq., Secretary to the Bombay Chamber of Commerce.

Sir,

I AM directed to acknowledge the receipt of your letter of the 30th September last, No. 111, on the subject of the robberies in cotton, and the adulteration of that produce.

2. With reference to the concluding paragraph of your communication, in which it is proposed that a Commission may be appointed to investigate the whole question of the adulteration of produce, I am instructed to inform you that his Excellency the Governor in Council is pleased to nominate the Commissioner of Customs, Dr. G. F. Forbes, and Mr. C. Forjett, as a Commission on the part of the Government, with power to associate with themselves any Government officer at any port of shipment, whom they may think likely to give them efficient aid. His Excellency in Council desires me accordingly to invite the co-operation of the Chamber of Commerce in requesting that three or more gentlemen of the mercantile community may be selected to act with the gentlemen nominated by the Government.

I have, &c.

Bombay Castle, 21 October 1862.

A. D. Robertson,

Acting Chief Secretary to Government.

— No. 54. —

No. 3835, of 1862.—Revenue Department.

To the Commissioner of Customs, Dr. *G. F. Forbes* and *C. Forjett*, Esq.

Gentlemen,

I AM directed by his Excellency the Governor in Council to forward to you a printed copy of a letter from the Bombay Chamber of Commerce, and to inform you that you are appointed a Commission on the part of Government, with power to associate with yourselves any Government officer at any port of shipment whom you may think likely to give you efficient aid in the investigation of the whole question of the adulteration of produce.

III.
Bombay.

2. The Chamber of Commerce has been invited to nominate three or more gentlemen from the mercantile community to co-operate with you in the investigation in question.

I have, &c.

A. D. Robertson,

Acting Chief Secretary to Government.

Bombay Castle, 21 October 1862.

— No. 55. —

(No. 3, of 1862.)

Dharwar Cotton Gin Factory, 11 February 1862, to *W. A. Goldfinch, Esq.,*
Collector of Dharwar.

Sir,

I BEG to submit the half-yearly report of the Dharwar Cotton Gin Factory, for the term ending the 30th November last.

2. The amount of work done by the factory during the period in question has been as follows :—

	<i>Rs.</i>	<i>a.</i>	<i>p.</i>
Value of 14 driving wheels for 18 saw gins, with straps - - -	630	-	-
Value of 25 driving wheels for 18 saw gins, without straps - - -	1,050	-	-
Value of work done towards completing two driving wheels for 18 saw gins - - - - -	30	-	-
Value of 9 driving wheels for 10 saw gins, with straps - - -	328	8	-
Value of 5 driving wheels for 10 saw gins, without straps - - -	170	-	-
Value of 11 brush straps, spare - - - - -	4	2	-
Value of articles made for new cast-iron gins, ordered from England -	24	14	-
Value of work done in cast-iron gins of 18 x 10 saws, which consisted in applying bottom wooden frames, repairing breakages they suffered in the transit, and in making parts that were wanted -	269	6	4
Value of articles, such as bearings, bolts, &c., made on account of the branch factories at Kurrajghy and Guddry - - - - -	187	14	2
Value of tools and other implements made for the factory and branch factories - - - - -	27	2	-
Value of repairs effected on old gins - - - - -	167	3	1
Value of repairs effected in Government carts carting timber for the factory - - - - -	-	8	11
Value of work done on account of Mr. Leasonef, superintendent of gold works at the Kuputra Hills, in Dharwar district - - -	7	2	7
TOTAL - - - <i>Rs.</i>	2,896	13	1
Deduct:			
<i>Rs.</i> <i>a.</i> <i>p.</i>			
Cost of materials consumed - - - - -	1,121	8	10
Cost of establishment - - - - -	1,681	8	5
	2,803	1	3
Balance in favour of the Factory - - - <i>Rs.</i>	93	11	10

3. During the above six months, 39 cast-iron gins were sold, viz., 36 of 18 saws, and 3 of 10 saws, which belong to the consignment of 50 machines of 18 saws, received in April last, and of 49 of 10 saws, received in October last.

4. Of the machines received as above there remain at present 33 on hand, which are in course of delivery to the parties who had advanced for them. But they will go a very little way to meet the demand which has risen beyond what was anticipated; and even the 100 gins Dr. Forbes wrote for to England in November last will be short by 31 of the number in requisition. However quickly a further supply of gins may be procured, it is out of question that it will not come in time to be of use for cleaning the present crop, and the parties who applied last, and who cannot be provided out of the 100 gins expected, were given to understand this before their orders were accepted, which, as usual, have been accompanied with an advance.

5. To

5. To provide for the gins in the districts being put into and kept in good order, is, under the circumstances, a more important matter than ever. The increase in the extent of cultivation, added to a favourable season, must ensure a much larger crop of American cotton this season than has ever been produced in these districts in any single year. At the same time there is a good market. In consideration of all this, every workman available was sent out from the branch factories, and that much earlier than usual, to look after the gins, Dr. Forbes having, in the first instance, taken measures, when he was here last, to secure the attention of the gin owners to the condition of their gins, about which they are usually apathetic, until the last moment, when the crop has come to hand.

6. During the six months which this report embraces, the Kurajghy Branch Factory had comparatively little work to attend to, owing, in part, to a deficient crop of cotton being realized last season.

7. The work done at the branch factory consisted in effecting the repairs of 12 gins that were received, and in making of articles, such as carts, boxes, &c., undertaken in the absence of gins, to the value of Rs. 212. 10. 3.

8. The monetary accounts of the branch factory may be shown as follows, with reference to the half year under report.

		<i>Rs.</i>	<i>a.</i>	<i>p.</i>
Balance of cash at the commencement of the half year	- -	4,484	3	2
Amount of receipts during the half year	- - - -	1,550	10	9
TOTAL	- - - Rs.	6,034	13	11
Deduct:				
Amount of disbursements during the half year	- - - -	3,621	11	9
Balance of cash at the close of the half year	- - - Rs.	2,413	2	2

9. The state of the fund is satisfactory, so that after the expenses of the year, which, with regard to the branch factory, will end with the present month, shall have been met, a considerable surplus may be expected to remain.

10. The Guddry Branch Factory has been actively employed, and during the period under report disposed of 21 old gins received at the branch factory. On seven of these gins radical alterations, involving in consequence extra labour, were effected, as a part of the gins were of the old pattern, and the remainder wanted the latest improvements.

11. The funds of the branch factory are adequate. The following statement exhibits the receipts and expenses, &c. of the branch factory in relation to the half year under notice.

		<i>Rs.</i>	<i>a.</i>	<i>p.</i>
Balance of cash at the commencement of the half year	- -	505	13	4
Receipts during the half year	- - - -	933	5	3
TOTAL	- - - Rs.	1,439	2	7
Deduct:				
Expenses incurred during the half year	- - - -	691	1	2
Balance at the end of the half year	- - - Rs.	748	1	5

I have, &c.

C. Courpalais,
Mechanical Superintendent in charge,
Cotton Gin Factory.

STATEMENT No. 1.

COTTON PLANTER'S REPORT from 1 June to 30 November 1861, in the *Dharwar* Collectorate.

Talooks.	Remarks on the past Season as to how far Anticipations regarding the Crop and its Disposal were realized.	Supposed Proportion of the last year's Crop which has been Cleaned in the Saw Gins, or will be so cleaned.				GINS		
		New Orleans.	Broach.	Total Foreign.	Country Cotton.	For Sale.	In Use.	
		Candies of 784 lbs. each.	Candies of 784 lbs. each.	Candies of 784 lbs. each.	Candies of 784 lbs. each.	Belonging to Government in the Factory.	Belonging to Private Individuals.	
		3.	4.	5.	6.	Number and Size of Gins.	Number and Size of Gins.	Talooks.
1.	2.	3.	4.	5.	6.	7.	8.	9.
						3 Gins of 20 saws each. 3 do. 18 do. of cast iron. 2 do. 10 do. 46 do. 10 do. of cast iron. 2 do. 4 do. 1 Cotton Thrasher. 1 Egyptian Churka. 2 Roller Gins. 2 Macarthy Gins.	6 Gins of 40 saws each. 2 do. 25 do. 1 do. 24 do. 13 do. 20 do. 1 do. 19 do. 282 do. 18 do. 47 do. 18 do. of cast iron. 1 do. 15 do. 8 do. 14 do. 3 do. 13 do. 230 do. 10 do. 3 do. 10 do. of cast iron. 87 do. 8 do. 144 do. 7 do.	Unable to state, as the gins are constantly removed about from one talooka to another, and often into the adjacent Madras districts and Enam villages, according to the requirements of the owners.
						62	828	

GINS—continued.

Out of Use.		Completed in the present Half-year.		Being Made.		Sold for Government during the Half-year under Report.		Profit or Loss to Government, deducting the Cost of European Superintendence.	Total Net Expenses on account of Experiment from the commencement to the close of the Half-year preceding that under Report.	Total Expenses for the Half-year under Report.	Prospects of the coming Season.	
Belonging to Private Individuals.		Belonging to Government.		For Government.		For Private Individuals.						
Number and Size of Gins.	Talooks.	Number and Size of Gins.	Value.	Number and Size of Gins.	Number.	Size of Gins.	Number and Size of Gins.					At what Cost.
10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
None I am aware of.		None.		1 Cotton-cleaning Machine. 26 Roller Churkas. 2 Driving wheels and wheel frames for 18 Saw Gins. 1 Gin frame for a 10 Saw Gin. 3 Driving wheels and wheel frames for 10 Saw Gins.	None.		36 Gins of 18 saws each, of cast-iron frame. 3 do. of 10 saws each, of do. do. 39	Cost not yet known.	Net profit during the six months under Report is Rs. 93. 11. 10, as shown in the accompanying Abstract Statement of Cost and Returns.	Total Expenses, Rs. 6,61,404 13 - Do. Receipts, 2,33,090 8 11 Balance, Rs. 4,27,514 4 1	Total Expenses - Rs. 5,697 3 7 Do. Receipts - 3,618 7 11 Balance, Rs. 2,078 11 8	
				33			Add— Value of Repairs to Saw Gins, &c. Rupees -	Rs. a. p. 174 5 8				

Dharwar Cotton Gin Factory,
11 February 1862.C. Courpalais,
Mechanical Superintendent in charge, Cotton Gin Factory.

ACCOUNT of Receipts and Expenditure of the Cotton Experiments, Dharwar Collectorate, from the commencement up to 30th November 1861.

Amount of receipts from the commencement up to the half-year preceding that under report				Amount of expenses from the commencement up to the half-year preceding that under report			
Rs.	a.	p.		Rs.	a.	p.	
2,33,890	8	11		6,61,404	13		
For the half-year under report, from 1st June to 30th November 1861 :				For the half-year under report, from 1st June to 30th November 1861 :			
Proceeds of the repair of Saw Gins :				Allowance to the Mechanical Superintendent in charge Cotton Gin Factory, from 1st May to 31st October 1861, at 200 rupees per month			
Rs.	a.	p.		Rs.	a.	p.	
June 1861	-	-	8				
July	-	-	108				
August	-	-	15				
September	-	-	3				
October	-	-	59				
November	-	-	15				
	-	-	7				
	-	-	448				
	-	-	2				
	-	-	1,510				
	-	-	3				
			2,127				
			9				
			3				
Advances for Gins to be disposed of :				Batta to the establishment of the Cotton Gin Factory, for the months from April to September 1861			
Rs.	a.	p.		Rs.	a.	p.	
June 1861	-	-	210				
July	-	-	70				
August	-	-	120				
September	-	-	280				
October	-	-	450				
November	-	-	230				
			1,360				
			121				
			11				
			10				
Proceeds of the sale of sundry articles				Contingent expenses for constructing Saw Gins, as per bills audited for the following months, viz. :			
Rs.	a.	p.		Rs.	a.	p.	
	-	-	-				
	-	-	-				
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III.
Bombay.

STATEMENT No. 3.

DETAILED MEMORANDUM of Sums collected during each of the Six Months embraced in the Cotton Planter's Report for the Half-year commencing 1st June and ending 30th November 1861, for Gins sold and Value of Repairs to Gins during that period; also for Repairs to Gins and Gins sold during the present Half-year.

MONTHS.	Sums collected during the present Half-year for Gins sold prior to 1 June 1861.	Sums collected for Gins sold during the Half-year under report.	Sums collected during the present Half-year for Repairs made prior to 1 June 1861.	Sums collected for Gins repaired during the Half-year under report.	TOTAL.
	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>
June 1861 - - -	- - -	- - -	- 8 -	- - -	- 8 -
July 1861 - - -	- - -	- - -	108 15 3	- - -	108 15 3
August 1861 - - -	- - -	- - -	- - -	- - -	- - -
September 1861 - - -	- - -	- - -	- - -	59 15 7	59 15 7
October 1861 - - -	- - -	- - -	410 14 2	37 4 -	448 2 2
November 1861 - - -	- - -	- - -	1,500 13 8	9 2 7	1,510 - 3
TOTAL - - <i>Rs.</i>	- - -	- - -	2,021 3 1	106 6 2	2,127 9 3

REMARKS.

	<i>Rs. a. p.</i>
Amount collected for repair of Saw Gins in the six months under report - - - - -	2,127 9 3
Advances received for Gins to be disposed of - - -	1,360 - -
Sale proceeds of sundry articles - - - - -	121 11 10
Fines from artificers for lateness of attendance, &c. -	9 2 10
<i>Rs.</i>	3,618 7 11

Dharwar Cotton Gin Factory,
11 February 1862.

C. Courpalais,
Mechanical Superintendent, in charge
Cotton Gin Factory.

Dharwar Cotton Gin Factory,
11 February 1862.

C. Courpalaix,
Mechanical Superintendent, in charge Cotton Gin Factory.

[illegible]

STATEMENT No. 5.

DETAILED MEMORANDUM of the Number, Size, and Value of Gins Made and Sold during the Half-year ending 30th November 1861, and the Balance of Cotton Machines in Store.

	MACHINES.																			
	Gins of 20 Saws.		Gins of 18 Saws, of Cast Iron.			Gins of 10 Saws.		Gins of 10 Saws, of Cast Iron.			Gins of 4 Saws.		Cotton Thrasher.		Egyptian Churka.		Roller Gins.		Macarthy Gins.	
	Number.	Value.	Number.	Value.	Value re-covered.	Number.	Value.	Number.	Value.	Value re-covered.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Number which were on hand at the close of the last half year	3	-	39	-	-	2	-	-	-	-	2	-	1	-	1	-	2	-	2	-
Number completed during the present half-year	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number received from England	-	-	-	-	-	-	-	49	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	3	-	39	-	-	2	-	49	-	-	2	-	1	-	1	-	2	-	2	-
DEDUCT—																				
Number sold during the half-year under report	-	-	36	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Balance of Cotton Machines in hand except those being made	3	-	3	-	-	2	-	46	-	-	2	-	1	-	1	-	2	-	2	-

Dharwar Cotton Gin Factory,
11 February 1862.

C. Courpalais,
Mechanical Superintendent, in charge Cotton Gin Factory.

STATEMENT No. 6.

STATEMENT of Gins Sold during the Half-year ending 30 November 1861.

MONTHS.							Description of Gins.				TOTAL.		REMARKS.
							Of Cast Iron, of 18 Saws each.		Of Cast Iron, of 10 Saws each.				
							No.	Amount.	No.	Amount.	No.	Amount.	
June 1861	-	-	-	-	-	17	-	-	-	17	-	* Cost not yet known.	
July	"	-	-	-	-	9	-	-	-	9	-		
August	"	-	-	-	-	1	-	-	-	1	-		
September	"	-	-	-	-	9	-	-	-	9	-		
October	"	-	-	-	-	-	-	-	-	-	-		
November	"	-	-	-	-	-	-	3	-	3	-		
TOTAL						-	-	36	-	3	-		39*

Dharwar Cotton Gin Factory,
11 February 1862.

C. Courpalais,
Mechanical Superintendent, in charge Cotton Gin Factory.

— No. 56. —

No. 178 of 1862—Revenue Department.

From A. Rogers, Esq., Collector of Surat, to A. D. Robertson, Esq., Acting Chief Secretary to Government, Bombay.

Sir, Surat, Collector's Office, 18 February 1862.

I HAVE the honour to acknowledge the receipt of your letter, No. 5014, of 20th November last, and to forward packages,* as per accompanying memorandum, containing specimens of the varieties of soil in which cotton is grown.

2. The remarks against the samples 1, 2, and 3 have been entered from my personal information, no reports having been forwarded from Ahmedabad. Those against the specimens 8 to 16 have been forwarded from Broach, but the average yield per beegah they show appears to me to be under-estimated.

I have, &c.

A. Rogers, Collector.

* In three boxes, despatched per steamer "Elphinstone."

MEMORANDUM of PACKAGES containing SPECIMENS of different COTTON SOILS sent to Government, as per Mr. Acting Chief Secretary Robertson's Letter, No. 5014, of the 20th November 1861.

Number.	Number and Marks.	From what District.	Remarks as to Description, Productive Qualities, and the supposed Effects upon the Cotton Crop.
1	1 A.	Ahmedabad -	The cotton grown in this soil is not annual, as in the black, and grows to a much greater height. The shrubs are allowed to remain for several years, and monsoon crops, such as jowarree, are raised intermixed with them. The staple is probably longer than that raised in black, but the out-turn of the crop is not so large. It is, I think, called "lalia knppas."
2	2 B.	Dholka -	The soil is as favourable as the black of the Surat zillah, and is very similar to that in which all the Dholera cotton is raised. It is the close-podded variety, and is picked with the pod, as all the Dholera cotton is in this state; it is called "kala."
3	3 C.	Gogo -	Most of the soil is stony, and consequently not so favourable as the proper black; the yield is scantier, and the plants not so large.
4	4 D.	Oolpar -	Black soil. A beegah is capable of producing six maunds of cotton, according to the mamlutdar's report. I consider the estimate under-stated, except for poor descriptions of soil.
5	5 E.	Chowrasee -	Black soil. A beegah is capable of producing six maunds of cotton. I remark the same as under Oolpar.
6	6 F.	Bardolee -	Black soil. Alluvial deposit, not so rich as it is lower down towards the sea; and, consequently, the yield is not so good as in Oolpar. It is at some distance inland.
7	7 G.	Mandvee -	Gorat or light soil. A beegah is capable of producing 10 or 12 maunds of cotton, according to the mamlutdar's report. The estimate is much too high, as the soil is generally stony and poor.
8	8 J.	Jumboosur -	Gorat or soft sandy soil. Favourable to most products (wheat excepted), but especially as to cotton.
9	9 D.	Ahmode -	Gorat or sandy soil. Alternately sown with cotton and grain. Is superior to black, manured with cowdung, and never left fallow. The cotton seed must not be sown deeper than an inch below the surface, otherwise the crop will fail.
10	10 H.	Jumboosur -	Black soil. Productive of wheat, rice, joowar, &c.
11	11 E.	Ahmode -	Black soil. Alternately sown with cotton; not improved by manure, and allowed to lie fallow in consequence.
12	12 F.	Wagra -	Bessur, or mixed black and sandy. Considered to be of a good quality, and capable of being made very productive, if the cotton is cultivated with much care; also favourable to the production of rice, kodra, &c.
13	13 C.	Broach -	Bessur, or mixed black and sandy soil. To be met with on the banks of rivers; admits of an uninterrupted cultivation of cotton without requiring the land to lie fallow, and yields from four to six maunds per beegah.
14	14 G.	Wagra -	Black soil. (<i>Vide</i> remark against No. 12).
15	15 A.	Broach -	Black soil (kanumia). Allowed to lie fallow the first year, and if well prepared for cotton cultivation, a beegah would, in a favourable season, yield six maunds of cotton in the second year; but in the third year, if preceded by a grain crop, the yield of a beegah would be $3\frac{3}{4}$ maunds, and if by a cotton crop, $2\frac{2}{3}$ maunds.
16	16 B.	Broach -	Black soil (barra). Adjacent to seashore; sown with anything but cotton the first year, fallow the second; sown with cotton the third year, when $4\frac{1}{2}$ maunds per beegah would be a fair yield, and her cotton crop in the succeeding season would not answer. If a grain crop intervened, the yield of cotton in the year after that would be $2\frac{7}{10}$ maunds per beegah.

Surat, Collector's Office,
18 February 1862.

A. Rogers, Collector.

Resolution of Government.—Recorded.

— No. 57. —

STATEMENT OF COTTON CULTIVATION in the Province of Sind during the Year 1861-62, contrasted with the extent in the previous Year 1860-61.

DISTRICTS.	1860-61.					1861-62.					Prospects of Season's Crops.		REMARKS.
	Extent of Land Cultivated.					Extent of Land Cultivated.					Raw Cotton.	Cleaned Cotton.	
	Number of Saw-gins in use.					Number of Saw-gins in use.							
	Native Cotton.	Foreign Cotton.	TOTAL.			Native Cotton.	Foreign Cotton.	TOTAL.					
KURRACHEE COLLECTORATE.													
Sehwan Deputy Collectorate:													
Sehwan Talook	727 5 0	-	727 5 0	-	-	630 18 0	-	630 18 0	-	453 20½	177 38½		
Johce "	2,015 5 0	-	2,015 5 0	-	-	3,198 18 0	-	3,198 18 0	-	982 11	328 25½		
Dadoo "	1,116 11 5	-	1,116 11 5	-	-	668 8 0	-	668 8 0	-	112 0	88 0		
Mahjunda "	412 7 7	-	412 7 7	-	-	686 0 0	-	686 0 0	-	771 30	257 10		
Kotree "	41 18 0	-	41 18 0	-	-	16 9 0	-	16 9 0	-	227 38½	99 8½		
	4,313 7 2	-	4,313 7 2	-	-	5,200 13 0	-	5,200 13 0	-	2,547 15	950 37½		
Jerruck and Shahbunder Deputy Collectorate:													
Shahbunder Talook	4 10 0	-	4 10 0	-	-	2 16 0	-	2 16 0	-	-	-		
Soojawul "	-	-	-	-	-	1 13 0	-	1 13 0	-	-	-		
Meerpoor Buttora "	74 9 0	0 12 0	75 1 0	-	-	158 3 0	-	158 3 0	-	-	37 8		
Beyla Talook	43 12 0	-	43 12 0	-	-	-	-	-	-	-	-		
Latta "	23 0 0	2 0 0	25 0 0	-	-	19 7 0	-	19 7 0	-	-	-		
Sacra "	-	1 0 0	1 0 0	-	-	-	-	-	-	-	-		
Jerruck "	5 0 0	1 0 0	6 0 0	-	-	-	-	-	-	-	-		
	150 11 0	4 12 0	155 3 0	-	-	181 19 0	-	181 19 0	-	-	37 8		
TOTAL													
	4,463 18 2	12 0	4,468 10 2	-	-	5,382 12 0	-	5,382 12 0	-	2,547 15	988 5½		

HYDERABAD COLLECTORATE:

Hyderabad Talook -	-	2,326	0	0	-	2,326	0	0	-	3,813	0	0	1	0	0	3,814	0	0	-	15,260	0	3,815	0
Goonce "	-	493	0	0	-	493	0	0	-	775	0	0	-	-	-	775	0	0	-	3,500	0	1,163	0
Budden "	-	129	0	0	-	129	0	0	-	303	0	0	-	-	-	303	0	0	-	966	0	280	0
Baglaakee Tanda Talook -	-	287	0	0	-	287	0	0	-	840	0	0	-	-	-	840	0	0	-	2,520	0	630	0
Dohra, Molbut and Jooda Talook.	-	2,252	0	0	-	2,252	0	0	-	1,260	0	0	-	-	-	1,260	0	0	-	445	0	115	0
Halla Talook -	-	2,421	0	0	-	2,421	0	0	-	3,365	0	0	-	-	-	3,365	0	0	-	11,141	0	2,848	0
Shadadpore "	-	1,952	0	0	-	1,952	0	0	-	3,691	0	0	-	-	-	3,691	0	0	-	14,504	0	3,943	0
Alvarka Tanda "	-	5,713	0	0	-	5,713	0	0	-	4,281	0	0	-	-	-	4,281	0	0	-	15,300	0	5,100	0
Meerpoor "	-	1,661	0	0	-	1,661	0	0	-	1,900	0	0	-	-	-	1,900	0	0	-	6,300	0	2,100	0
Nowshera "	-	5,808	0	0	-	5,810	0	0	-	2,273	0	0	-	4	12	2,277	12	0	-	6,450	0	1,762	0
Kundara "	-	559	0	0	-	559	0	0	-	2,262	0	0	-	-	-	2,262	0	0	-	6,813	0	1,703	0
Mora "	-	1,561	0	0	-	1,561	0	0	-	1,661	0	0	-	9	5	1,670	5	0	-	3,019	0	943	0
Sukkurund "	-	25,162	0	0	-	25,164	0	0	-	27,574	0	0	-	14	17	27,588	17	0	-	90,039	0	25,387	0
TOTAL -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

The decrease is owing to the transfer of two Toppas of the abolished Jooda Kardate to the Bagaka Tanda Talooka.

The decrease is owing to the insufficient rise of water during the sowing season.

The figures entered for 1860-61 in this statement differ from those for the same year given in the statement submitted last year, which only gave an approximate estimate. The figures for 1860-61 shown herein, are as actually ascertained at the close of the revenue year.

SHIKARPOOR COLLECTORATE:

Shikarpoor and Sukkur Deputy Collectorate.	-	7,333	0	0	13	0	0	7,346	0	0	-	8,874	0	0	3	0	0	8,877	0	0	9,230	0	2,486	0
Roree -	-	15,617	0	0	23	0	0	15,640	0	0	-	16,160	0	0	-	-	-	16,160	0	0	36,548	0	9,233	0
Larkhana -	-	22,009	0	0	24	0	0	22,033	0	0	-	14,472	0	0	-	-	-	14,472	0	0	13,357	0	3,332	0
Mehur -	-	8,283	0	0	3	0	0	8,286	0	0	-	6,748	0	0	-	-	-	6,748	0	0	19,770	0	4,487	0
TOTAL -	-	53,242	0	0	63	0	0	53,305	0	0	-	46,254	0	0	3	0	0	46,257	0	0	78,905	0	19,558	0

The decrease observable in the Larkhana and Mehur districts, is stated by the collector, to be due to the high price of grain, which renders it more profitable to grow grain than cotton.

FRONTIER DISTRICTS OF UPPER SIND:

FRONTIER DISTRICTS OF UPPER SIND:																									
Meerpoor Talook	-	-	4,295	9	6	-	-	4,295	9	6	26	4,320	12	7	-	-	4,320	12	7	30	6,115	20	2,038	20	
Kashmere	-	-	487	13	13	-	-	487	13	13	8	431	16	0	-	-	431	16	0	7	-	-	-	-	
Jacobabad	-	-	1,175	0	0	-	-	1,175	0	0	12	595	0	0	-	-	595	0	0	8	-	-	-	-	
TOTAL	-	-	5,958	2	19	-	-	5,958	2	19	46	5,347	8	7	-	-	5,347	8	7	45	6,115	20	2,038	20	
Thurr and Parkur	-	-	1,696	3	0	-	-	1,696	3	0	-	1,001	0	0	-	-	1,001	0	0	-	-	-	-	-	
GRAND TOTAL	-	-	90,522	4	1	69	12	0	90,591	16	1	46	85,559	0	7	17	17	0	85,576	17	7	45	177,606	35	47,951 25½

The Political Superintendent reports that the figures entered in last year's statement as for 1860-61 were estimated only, as these for 1861-62 are in this return; the figures for 1860-61 shown herein, are as actually ascertained at the close of the revenue year.

No saw-gins are used in this district. The native churka is in usual use, and the average number employed is stated by the Political Superintendent at 210.

The decrease is owing to the failure of crops in the Narra Dunda.

Commissioner's Office, Kurrahee,
24 April 1862.

S. Mansfield,
Commissioner in Sind.

III.

Bombay.

— No. 58. —

No. 1655 of 1862—Revenue Department.

From *B. H. Ellis*, Esq., Revenue Commissioner, Northern Division, to the Honourable *A. D. Robertson*, Acting Chief Secretary to Government, Bombay; dated Poona, 5 July 1862.

Sir,

Cotton cultivation
return for the season
1861-62.

I HAVE the honour to forward herewith the return marginally noted as required in Government Circular No. 313, dated 25th January 1860.

2. This return has usually contained eight more columns, but the information given therein, was calculated to mislead, and so far as it related to the cost of cultivation, was less reliable than the detailed statistics which merchants can procure from other sources. I have therefore omitted these eight columns.

21. Gross revenue of Government land.
22. Deduct remission on Government land.
23. Remainder Government revenue.
24. Rate of assessment.
25. Cost of cultivation.
26. Cost of clearing.
27. Average price of cleaned cotton per candy of 784 lbs.
28. Expense of transit,
Ditto - ditto.

3. I regret that I cannot vouch for the correctness of the remainder, except in so far as the statement may be taken as showing the quantity of land under cultivation with cotton during the year. I would especially deprecate any reliance being placed on the return (column 3) of "land capable of producing cotton." The errors noticed in the column of remarks are fair specimens of the mistakes with which I believe these returns abound.

I have, &c.

B. H. Ellis, Revenue Commissioner,
Northern Division.

(No. 1656 of 1862.)

COTTON RETURN of the Collectors of the Northern Division for the Season 1861-62, as contrasted with 1860-61.

COLLECTORATES.		S E A S O N.	Extent of Land, capable of Producing Cotton.	E X T E N T C U L T I V A T E D.						Total Extent of Cotton Cultivation.
				Government Land.	Inam Land.	Consisting of			Inam Land.	
						Indigenous Cotton.	Exotic Cotton.			
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	
AHMEDABAD *	Acres - { 1861-62 - { 1860-61 -	6,06,932 37 0 2,78,019 39 0	1,28,081 30 5 1,34,602 26 0	31,823 34 11 35,037 24 0	1,28,081 30 5 1,34,602 26 0	31,823 34 11 35,006 6 0	- -	- 31 18 0	1,59,905 25 0 1,69,640 10 0	
	1861-62 { Increase { Decrease	3,98,912 38 0 -	- 6,520 35 11	- 3,213 29 5	- 6,520 35 11	- 3,182 11 5	- -	- 31 18 0	- 9,734 25 0	
	Acres - { 1861-62 - { 1860-61 -	5,94,451 12 94 5,94,451 12 94	10,778 9 5 10,290 9 15	6,655 8 5 6,191 12 15	10,778 9 5 10,290 9 15	6,655 8 5 6,191 12 15	- -	- -	17,438 17 10 16,482 2 10	
KAHRA -	1861-62 { Increase { Decrease	- -	487 19 10 -	463 15 10 -	487 19 10 -	463 15 0 -	- -	- -	951 15 0 -	
	Acres - { 1861-62 - { 1860-61 -	8,37,793 3 0 6,45,436 39 15	1,77,577 2 0 1,72,032 13 4	74,910 21 15 68,459 0 4	1,77,576 32 0 1,72,032 13 4	74,910 21 15 68,459 0 4	0 10 0 -	- -	2,52,487 23 15 2,40,491 13 8	
	1861-62 { Increase { Decrease	1,92,356 3 1 -	5,544 28 12 -	6,451 21 11 -	5,544 18 12 -	6,451 21 11 -	0 10 0 -	- -	11,996 10 7 -	
SURAT † -	Acres - { 1861-62 - { 1860-61 -	30,32,425 2 10 20,83,184 12 5	3,55,530 15 0 2,50,506 8 5	37,494 14 - 22,634 17 0	3,55,530 15 0 2,50,506 8 5	37,494 14 0 22,634 17 0	- -	- -	3,93,025 9 0 2,73,141 5 5	
	1861-62 { Increase { Decrease	9,49,240 10 5 -	1,05,024 6 15 -	14,859 17 - -	1,05,024 6 15 -	14,859 17 0 -	- -	- -	1,19,884 3 15 -	
	Acres - { 1861-62 - { 1860-61 -	- -	- -	- -	- -	- -	- -	- -	- -	
KHANDISH ‡ -	Acres - { 1861-62 - { 1860-61 -	- -	- -	- -	- -	- -	- -	- -	- -	
	1861-62 { Increase { Decrease	- -	- -	- -	- -	- -	- -	- -	- -	
	Acres - { 1861-62 - { 1860-61 -	- -	- -	- -	- -	- -	- -	- -	- -	

(continued)

* The increase in Column 3, as regards Ahmedabad, is only apparent, and is owing to a mistake made in former returns by the mamuldar of Dhundooka and Verungam.

† The increase in Column 3 is purely nominal. The figures of 1860-61 represented the area of lands in which cotton was grown, not the lands capable of growing cotton.

‡ The increase in Column 3 is chiefly owing to an error, on the part of the district officers, who, in the late re-distribution of villages, forgot to deduct from their returns the lands situated in villages transferred to other districts; Hence, much land was entered twice over. The cession of Warrungam and Edlabad, by Shindia, has added to the total area by about 1,98,000 bigas.

Cotton Return of the Collectorates of the Northern Division for the Season 1861-62, as contrasted with 1860-61—continued.

COLLECTORATES.	SEASON.	Uncleaned Cotton produced in Candies of 784 lbs.			Yield of Cleaned Cotton in Candies of 784 lbs.			Local Consumption.		Exported.	
		Indigenous.	Exotic.	Total.	Indigenous.	Exotic.	Total.	Indigenous in Candies of 784 lbs.	Exotic in Candies of 784 lbs.	Indigenous in Candies of 784 lbs.	Exotic in Candies of 784 lbs.
AHMEDABAD	Acres - { 1861-62 - 1860-61 -	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
		49,012 775½	-	49,013 775½	12,236 140	-	12,236 140	1,857 55	-	10,379 851	-
		43,571 19	1,24	43,572 43	10,769 42	267	10,769 309	1,355 151½	267.	9,413 674½	-
	1861-62 { Increase - Decrease -	5,441 756½	-	5,440 732½	1,467 98	-	1,466 615	501 687½	-	965 194½	-
KAIRA	Acres - { 1861-62 - 1860-61 -	4,113 44½	-	4,113 44½	1,023 492½	-	1,023 492½	1,023 492½	-	-	-
		-	-	4,025 143	1,013 289½	-	1,013 289½	1,013 289½	-	-	-
		87 685½	-	87 685½	10 202½	-	10 202½	10 202½	-	-	-
	1861-62 { Increase - Decrease -	-	-	-	-	-	-	-	-	-	-
SURAT	Acres - { 1861-62 - 1860-61 -	76,554 748 8	-	76,554 748 8	23,584 510 2	-	23,584 510 2	2,938 570 2	-	20,645 724 0	-
		72,436 550 8	-	72,436 550 8	22,539 280 4	-	22,539 280 4	3,381 573	-	19,157 491 4	-
		4,118 198	-	4,118 198	1,045 229 14	-	1,045 229 14	-	-	1,488 232 12	-
	1861-62 { Increase - Decrease -	-	-	-	-	-	-	443 2 14	-	-	-
KHANDISH	Acres - { 1861-62 - 1860-61 -	59,437 446	-	59,437 446	17,584 508½	-	17,584 508½	3,628 368	-	13,556 140½	-
		33,512 159½	-	33,512 159½	8,694 87½	-	8,694 87½	2,091 495½	-	6,602 373½	-
		25,925 246½	-	25,925 246½	8,890 420½	-	8,890 420½	1,536 653½	-	7,373 551	-
	1861-62 { Increase - Decrease -	-	-	-	-	-	-	-	-	-	-

Poona, 5 July 1862.

(signed) B. H. Ellis,
Revenue Commissioner.

— No. 59. —

STATEMENT showing the Extent of Cotton Cultivation in the Collectorates of the Southern Division, for the Year 1861-62, in contrast with the same for the Year 1860-61.

Season.	COLLECTORATES.	Extent of Land capable of producing Cotton, in Acres	EXTENT CULTIVATED.							Total Extent of Cotton Cultivation.		
			1.	2.	3.	4.	5.	Consisting of				
								Indigenous Cotton.			Exotic Cotton.	
								Government Land.	Inam Land.		Government Land.	Inam Land.
1861-62											10.	
Poona	-	-	19,148 3 4½	8,846 9 0	366 21 0	8,846 9 0	366 21 0	-	-	-	9,212 30 0	
Ahmednuggur	-	-	102,690 38 0	9,127 14 0	363 5 0	9,127 14 0	363 5 0	-	-	-	9,490 19 0	
Sholapoor	-	-	25,52,575 24 0	1,52,731 3 0	45,800 6 0	1,52,728 28 0	45,800 6 0	2 15 0	-	-	1,98,531 9 0	
Belgaum	-	-	11,02,815 0 0	1,63,557 36 0	1,34,916 15 0	1,58,678 3 0	133,171 10 0	4,879 32 0	1,745 5 0	-	2,98,474 11 0	
Dharwar	-	-	4,79,589 7 0	2,43,091 28 0	1,35,324 16 0	1,30,613 17 0	7,550 39 0	1,12,478 11 0	64,773 17 0	-	3,78,416 4 0	
Sattara	-	-	1,78,628 7 0	32,062 36 0	8,181 12 0	32,062 36 0	8,181 12 0	-	-	-	40,244 8 0	
TOTAL	-	-	44,35,507 1 4½	6,09,417 6 0	3,24,951 35 0	4,92,056 27 0	2,58,433 13 0	1,17,360 19 0	66,518 22 0	-	9,34,369 1 0	
1860-61												
Poona	-	-	16,154 5 4½	8,731 27 0	485 19 0	8,731 27 0	485 19 0	-	-	-	9,217 6 0	
Ahmednuggur	-	-	98,509 20 0	6,909 14 0	293 1 0	6,909 14 0	293 1 0	-	-	-	7,202 15 0	
Sholapoor	-	-	5,05,109 30 0	1,33,849 7 0	39,172 30 0	1,33,849 7 0	39,172 30 0	-	-	-	1,73,021 37 0	
Belgaum	-	-	6,99,980 29 2	1,39,436 13 9	1,10,900 35 13½	1,34,811 23 9	1,09,011 35 12½	4,624 30 0	1,889 0 1	-	2,50,337 9 6½	
Dharwar	-	-	4,79,589 7 0	2,47,226 26 0	1,41,195 3 0	1,53,743 18 0	80,704 10 0	93,478 9 0	60,490 32 0	-	3,88,421 29 0	
Sattara	-	-	70,801 34 0	32,763 36 0	7,126 22 0	32,763 36 0	7,126 22 0	-	-	-	39,890 18 0	
TOTAL	-	-	18,70,145 5 6½	5,68,917 3 9	2,99,173 30 13½	4,70,814 5 9	2,36,793 37 13½	98,102 39 0	62,379 32 1	-	8,68,090 34 6½	
1861-62												
More than in 1860-61	-	-	23,65,361 35 14	40,500 2 7	23,778 4 2½	21,242 21 7	21,693 15 3½	19,257 20 0	4,138 29 15	-	66,278 6 9½	
Less than in 1860-61	-	-	-	-	-	-	-	-	-	-	-	

STATEMENT showing the Extent of Cotton Cultivation in the Collectrates of the Southern Division, for the Year 1861-62, &c.—continued.

Season.	COLLECTORATES.	Uncleaned Cotton produced, in Candies of 784 lbs.			Yield of Mean Cotton, in Candies of 784 lbs.			Local Consumption.		Exported.	
		Indigenous Cotton. 11.	Exotic Cotton. 12.	Total. 13.	Indigenous Cotton. 14.	Exotic Cotton. 15.	Total. 16.	Indigenous, in Candies of 784 lbs. 17.	Exotic, in Candies of 784 lbs. 18.	Indigenous, in Candies of 784 lbs. 19.	Exotic, in Candies of 784 lbs. 20.
1861-62	Poona	2,387 57	-	2,387 57	596 602½	-	596 602½	591 31½	-	135 370½	-
	Ahmednuggur	1,314 374	-	1,314 374	328 462	-	328 462	325 462	-	3 0	-
	Sholapoor	16,731 748	0 196	16,732 160	4,192 771	0 49	4,183 36	3,373 141	0 196	1,112 466	-
	Belgaum	44,876 40	934 452	45,810 492	11,219 9	233 505	11,452 514	3,500 537	0 74	7,718 0	233 430
	Dharwar	61,580 736	40,695 426	1,02,276 378	15,395 184	13,565 142	28,960 326	4,426 0	-	10,969 184	13,565 142
	Sattara	4,673 194	-	4,673 194	1,166 585½	-	1,166 585½	958 4½	-	208 581	-
	TOTAL	131,563 581	41,630 290	1,73,194 87	32,889 261½	13,798 696	46,688 173½	13,174 391½	0 270	20,147 33½	13,798 572
1860-61	Poona	4,796 80½	-	4,796 80½	1,199 137½	-	1,199 137½	351 301½	-	847 620	-
	Ahmednuggur	1,354 498	-	1,354 498	368 653½	-	368 653½	331 653½	-	7 0	-
	Sholapoor	13,325 264	-	13,325 264	3,331 262	-	3,331 262	2,960 331	-	797 350	-
	Belgaum	33,254 755	913 563	34,168 534	8,313 580	228 336	8,542 133	2,504 468	1 453	5,809 112	226 667
	Dharwar	71,771 185	35,350 27	1,07,121 212	17,942 634	11,788 270	29,726 121	127 0	-	13,516 634	11,783 270
	Sattara	4,946 50	-	4,946 50	1,236 553	-	1,236 553	1,145 211	-	91 342	-
	TOTAL	129,448 264½	36,262 590	1,65,712 70½	32,392 468½	12,011 606	44,404 292½	7,420 397½	1 453	21,069 490	12,010 153
1861-62	More than in 1860-61	2,115 316½	5,366 484	7,482 16½	496 577	1,787 90	2,284 665	6,753 778½	-	-	1,788 419
	Less than in 1860-61	-	-	-	-	-	-	-	1 183	922 456½	-

STATEMENT showing the Extent of Cotton Cultivation in the Collectorates of the Southern Division, for the Year 1861-62, &c.—continued.

Season.	COLLECTORATES.	Gross Revenue of Government Land.	Deduct Remissions in Government Land.	Remainder, Government Revenue.	Rate of Assessment per Acre.	Cost of Cultivation per Acre.	Made and Cost of Cleaning.	Average Price of Cleaned Cotton per Candy of 784 lbs.	Expense of Transit to Bombay, per Candy of 784 lbs.
		21.	22.	23.	24.	25.	26.	27.	28.
1861-62	Poona	<i>Rs. a. p.</i> 3,688 9 -	<i>Rs. a. p.</i> - - -	<i>Rs. a. p.</i> 3,688 9 -	<i>Rs. a. p.</i> From - 3 - To 1 6 -	<i>Rs. a. p.</i> From 6 6 - To 8 9 6	By means of churka, at a cost from 6 rupees to <i>Rs.</i> 6. 2. per candy (not ascertainable.)	<i>Rs. a. p.</i> 102 - -	<i>Rs. a. p.</i> From 8 2 - To 10 - -
	Ahmednuggur	4,502 - 9	-	4,502 - 8	From 4 - - To 5 7 6	From 3 - - To 7 12 -	From <i>Rs.</i> 4. 2. to 15 rupees - -	102 5 -	From 12 - - To 30 - -
	Sholapoor	75,061 - 11	-	75,061 - 11	From 4 9 - To 10 9 -	From - 5 - To 5 - -	Foot roller, 2 rupees per candy - -	102 7 -	From 7 8 - To 17 - -
	Belgaum	1,25,978 1 4	-	1,25,978 1 4	From - 9 3 To 1 12 -	From - 8 - To 3 2 6	Foot rollers, <i>Rs.</i> 5. 12. per candy; the exotic by machine.	118 2 7	From 8 - - To 18 12 -
	Dharwar	2,14,148 14 -	-	2,14,148 14 -	From - 11 1 To 1 2 5	From - 2 - To 4 5 -	The New Orleans by saw gins, <i>Rs.</i> 1. 6.; the native by foot roller, <i>Rs.</i> 2. 8.	not ascertainable.	About 12 - -
	Sattara	26,168 6 6	350 - -	25,818 6 6	From - 6 5 To 4 12 11	From 1 - - To 4 5 -	Foot roller (not ascertainable) - -	88 15 -	From 15 - - To 25 - -
	TOTAL	4,52,547 - 5	350 - -	4,52,197 - 5	- - -	- - -	- - -	- - -	- - -
1860-61	Poona	3,184 13 8	-	3,184 13 8	From - 3 - To 1 6 -	From 6 6 - To 8 9 6	By means of churka, at a cost from <i>Rs.</i> 6. 2. per candy.	102 - -	9 1 4
	Ahmednuggur	2,821 13 3	-	2,821 13 3	From - 7 - To 1 - -	From 3 - - To 11 - -	Not ascertainable; from <i>Rs.</i> 4. 2. to <i>Rs.</i> 15.	93 4 -	16 8 -
	Sholapoor	73,552 10 5	-	73,552 10 5	From - 6 - To - 11 9	From - 6 - To 6 - -	Foot roller, 2 rupees - -	81 - -	11 2 -
	Belgaum	1,07,572 3 1	-	1,07,572 3 1	From - 7 3 To 1 12 -	From - 8 - To 3 2 6	Foot roller, <i>Rs.</i> 5. 5.; the exotic by machine.	95 10 10	13 5 4
	Dharwar	2,21,929 6 -	-	2,21,929 6 -	From - 11 1 To 1 11 7	From - 2 - To 1 - -	The New Orleans by saw-gin, <i>Rs.</i> 1. 6.; the native by foot roller, <i>Rs.</i> 2. 8.	not ascertainable.	12 - -
	Sattara	23,473 11 2	200 - -	23,273 11 2	From - 6 - To 8 10 6	From 1 - - To 4 5 -	Foot roller (not ascertainable) - -	86 8 -	17 8 -
	TOTAL	4,32,534 9 7	200 - -	4,32,334 9 7	- - -	- - -	- - -	- - -	- - -
1861-62	More than in 1860-61 -	20,012 6 10	150 - -	19,862 6 10	- - -	- - -	- - -	- - -	- - -
	Less than in 1860-61 -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -

Poona, 10 July 1862.

W. Hart, Revenue Commissioner, S. D.

III.
Bombay.

— No. 60. —

(No. 3148.)

LETTER from Dr. *G. F. Forbes*, Superintendent, Cotton Gin Factory, Dharwar, to the Acting Collector of Dharwar; dated 11 July 1862 (No. 24).

To enable me to meet the demands upon the factory for the cotton crop of the ensuing year, I shall feel obliged if you will be so good as to forward my application to Government for sanction to my obtaining from England a supply of the cast-iron materials, including frames, &c., which will suffice for 300 gins, viz., 200 of 18 saws each, and 100 of 10 saws each, including 4,000 gin saws.

2. I beg at the same time that I may be permitted to make my own arrangements with the manufacturers to obtain such modifications and alterations from the former supplies as are found necessary, and also to ensure expedition, so that the articles may arrive in this country at the proper season.

MEMORANDUM from Mr. *S. St. G. Gordon*, Acting Collector of Dharwar, to the Revenue Commissioner, Southern Division; dated 12 July 1862 (No. 806).

FORWARDED for the early sanction of Government, through the Revenue Commissioner, Southern Division.

REFERENCE from Mr. *W. Hart*, Revenue Commissioner, Southern Division, to the Collector of Dharwar; dated 17 July 1862 (No. 1685).

THE Collector is requested to state whether, in the event of the sanction asked for being obtained, the charge could be met from the Collector's Budget Estimates, and if so, from what head.

MEMORANDUM from Mr. *S. St. G. Gordon*, Acting Collector of Dharwar, to the Revenue Commissioner, Southern Division; dated 21 July 1862 (No. 836).

IN reply, the Acting Collector begs to state that the charge is not provided for in the Budget Estimates for 1862-63, and that it will not be met from them. Dr. Forbes states that the money will be paid in England, and very probably not in the current year at all.

2. The outlay will not be a charge on Government, but merely an advance, and will be recovered, with a small per-centage, by the sale of the gins.

MEMORANDUM from Mr. *W. Hart*, Revenue Commissioner, Southern Division, to Government; dated 25 July 1862 (No. 1810.)

SUBMITTED for the sanction of Government.

RESOLUTION.—Sanctioned; Dr. Forbes should, however, explain how and by whom the funds will be provided in England for the payment of these materials.

2. The Acting Collector should be informed that the charge, if incurred merely as an advance to be recovered hereafter, ought to be provided for under the Budget Rules in the Estimates.

ORDERED, That copies of the above be forwarded to the Revenue Commissioner, Southern Division, the Civil Paymaster, the Deputy Auditor, and Accountant General, and the Financial Department of the Secretariat.

J. B. Peile,
Under Secretary to Government.

— No. 61. —

(No. 3149.)

LETTER from Mr. *B. H. Ellis*, Revenue Commissioner, N. D., to the Honourable *A. D. Robertson*, Acting Chief Secretary to Government; dated 14 April 1862 (No. 854).

UNDER date the 15th March 1861, No. 1215, you referred, for any suggestions my predecessor might have to make, the Resolution of the Government of India of the 20th of February, directing that measures shall be taken to facilitate the export of the next season's cotton crop.

2. A copy of the Regulation was forwarded to the Collectors of the cotton-producing districts in this division, and I have now the honour to annex copies of the reports of the officers named in the margin.

Mr. Ashburner, Collector of Ahmedabad's Letter, No. 625, dated 17 August 1861.

Mr. Pratt, Third Assistant Collector of Surat's Letter, No. 9, dated 24 April 1861.

Mr. Rogers, Collector of Surat's Letter, No. 185, dated 19 February 1862.

3. Mr. Ashburner has made a suggestion for the construction at the ports of Guzerat of rough jetties of logs of wood, which are found to answer on the Mississippi. His suggestion may be referred to the Public Works Department, but I doubt the correctness of the supposed analogy between the Mississippi floods and the monsoon storms in the Gulf of Cambay.

4. Steamers adapted to ply at the commencement of the monsoon must be large and expensive vessels, which would have nothing to do on the line at other seasons, and it seems to me that the cotton which cannot be shipped until May will generally find an outlet by the rail rather than by steamers. But as there can be no doubt of the great difficulties now attending the shipment of cotton, even during the fair season, owing to the want of wharves and jetties, Mr. Ashburner's plan is worth trying, if it be thought feasible in an engineering point of view.

5. Mr. Pratt having offered suggestions of local utility, the Collector was asked what had been done in regard to some of them. This elicited from Mr. Rogers the reply of which a copy is appended. Mr. Mansfield approved of Mr. Rogers' suggestions and circulated them to the other Collectorates.

6. The course best adapted to attain the object of the Resolution of the Supreme Government appears to have been taken by Mr. Bellasis, the late Collector of Surat, who commenced marking out straight lines of road, and thus took the first step in the right direction for the improvement of the communications of the Collectorate under his charge.

7. In a memorandum lately recorded in the Public Works Department, Colonel Turner has explained the successive stages by which roads should be formed. His observations appear to me to indicate clearly the course that should be adopted with a view to give increased facilities of transport, not only in the cotton-producing, but in all districts, and I would suggest that a copy be circulated to Collectors for their guidance.

Dated 18 March 1862; extract para. 12 appended for facility of reference.

8. It is proposed by Government to employ specially three engineer officers in Guzerat to assist the Collectors in clearing lines of road and constructing bridges. But even in districts which will not receive the benefit of the proposed special appointments, the Collectors may be directed to avail themselves of the assistance of the local engineer officers, and probably the Public Works Department will be able, in such districts, to strengthen the subordinate staff of the executive engineers. With this aid the Collectors should mark out lines

III.
Bombay.

of road from every village of importance, to meet the main road, and to the railway stations and principal ports.

9. The completion of a network of district roads throughout the country is a necessary supplement to railroads, and is, I venture to submit, the most efficacious mode by which Government can facilitate the export of the cotton crops of the interior.

Enclosure 1, in No. 61.

LETTER from Mr. *L. R. Ashburner*, Acting Collector of Ahmedabad, to Mr. *J. R. Morgan*, Acting Revenue Commissioner, N. D.; dated 17 August 1861 (No. 625).

WITH reference to the correspondence which has taken place on the subject of increasing the production of cotton, and improving the roads communicating with the port of shipment, forwarded with your endorsement No. 557, dated 13th March 1861, I have the honour to observe that the sum of 50 rupees per mile, which had been sanctioned for the roads in Guzerat, will enable me on the opening of the season to do all that is necessary to enable any quantity of cotton to be forwarded at the rate of two and a half or three miles per hour, which is stated in the Governor General's Resolution of 28th February 1861, to be the best means of aiding the export of the next year's crop.

2. Much has been said about the absence of roads as an obstacle to an increasing supply of cotton, and in the Deccan, Berar, and Nagpoor, it cannot be denied that the bad roads and the great distance from the coast do limit the supply; but in Guzerat, where the greater part of the cotton is produced within 40 or 50 miles from the coast, and the roads are never so bad that country carts cannot travel at the rate of two or three miles an hour, the roads have never been any serious impediment to the export of cotton.

3. An increase of shipping adapted to the Gulf of Cambay is of far greater importance to the object in view than improved roads. The cotton crop is often not picked till late in March, and early in May the south-west winds begin to blow up the Gulf of Cambay with such violence that it is with the greatest difficulty native boats can get out of port. Freight to Bombay is then so high that it pays the merchant better to keep his cotton till after the monsoon, when freights are low, than to forward it to Bombay at a great risk and high freights. If steamers, such as those which carry cotton on the American rivers were employed, the greater part of the Guzerat crop would reach Bombay previous to the monsoon. All that is necessary is to build rude jetties at the port, alongside which the steamers could lay while loading. An expensive wharf is not necessary; the rough jetty made of pine logs, bolted together with wooden pegs, answers all the purpose of a wharf on the Mississippi river, where the floods are quite as formidable as any we have to contend with here. If they are occasionally damaged during the monsoon, they are easily repaired by any village carpenter, and in the meantime they have done their work, and if a small toll were levied, they would pay these expenses. The same kind of jetties are seen on the river St. Lawrence, where they have to stand the immense pressure of the breaking up of the ice in the spring, but they are found to answer perfectly.

4. It may be said that the railway will carry all the cotton to Bombay, and native boats be no longer employed; if the present high price of cotton continues, a good deal of it will no doubt be forwarded by rail at the end of the season, when freights and insurances are high; but the present high price of cotton cannot last long. When the American civil war is over, Indian cotton must not only fall, but when the market begins to be affected by the supplies of cotton from sources which the present crisis is producing, it must fall lower than the lowest it has been hitherto. Cotton will then not pay for expensive land carriage, and the coasting trade will complete successfully with the rail till the end of the season, when the coast becomes dangerous. If steamers of proper build were made use of, it is probable they would carry all the heavy produce of Guzerat. The rail has never been able to compete with the superior cheapness of water carriage either in Europe or America, where circumstances are much more favourable than in India.

5. Another important measure by which the export of cotton may be facilitated, is the establishment of steam screws and steam saw gins at all the large cotton shipping ports. This is a mercantile speculation in which Government cannot directly interfere, but it would be found a most profitable one to any one who would undertake it.

6. One of the great difficulties of getting the cotton crop to market is the want of labour to clean the cotton by the laborious and slow process of the hand churka. Great numbers of bheels from the Rajppeepla Hills, and kaths from Kattiawar, resort to the cotton districts during the season, and are employed in some of the wukhars night and day in preparing the cotton for shipment before the high south-west winds begin to blow. A few steam saw gins like those of Broach would do all the work of these people, and get the cotton to market at least a month sooner than at present. If the cotton were pressed by steam power, not only would the expense of the first pressing by hand power be saved, but ships from Europe might come well into the Gulf of Cambay to receive their cargoes, and thus

save

save much of the time that is lost in the voyage in native boats to Bombay, the expense of breaking bulk, landing, re-screwing, re-weighing, and re-shipping in Bombay. The holding ground is good in most parts of the Gulf of Cambay, so that ships would anchor in perfect safety. All the cotton that is shipped at Mobile in Alabama is carried out to the ships lying in an open roadstead, quite as much exposed as any part of the Gulf of Cambay.

7. But the point most essential to secure a full supply of cotton from India, is the very simple one of a steady demand in the market. Merchants who have only employed Indian cotton to eke out their supply of American, when the latter has fallen short or exceeded a certain price, and whose mode of doing business has offered a premium to fraud and false packing, now seem surprised that they cannot procure an unlimited supply of good and carefully packed cotton, and vent their indignation in abuse of Government and the roads. If the cultivator finds a grain crop more profitable than cotton, he will not produce cotton; and if he finds that he gets the same price for dirty as for clean and carefully picked cotton, he will continue to adulterate his cotton as at present. In short, the supply of cotton depends on the demand. If Manchester wants clean cotton, it must pay for it; and if it will pay a higher price for clean cotton than for dirty, it will soon create a supply equal to the demand.

Enclosure 2, in No. 61.

LETTER from Mr. *W. R. Pratt*, Third Assistant Collector of Surat, to Mr. *H. B. Lindsay*, Acting First Assistant Collector of Surat in charge; dated 24 April 1861 (No. 9).

I HAVE the honour to acknowledge the receipt of your letter No. 380 of 1861, dated the 16th instant, requesting me to favour you with any suggestions that I may have to make with reference to repairing the roads, and facilitating the transport of cotton in the talookas of Oolpar and Koorsad.

2. I have the honour, in reply, to inform you that the two main cotton roads in the above two districts, are one from Broach through Katodra and Veriow to Surat; the other from Hansote and Elao through Kadrama and Oolpar to Randeir.

There are also two roads of lesser importance, viz., one through Morthan in the Koorsad talooka to Veriow, the other passing to the east of Koorsad, crossing the Taptee at Motha Waracha, and conveying all the cotton grown to the east of the railway line.

3. These four roads are neither worse nor better than country roads in Guzerat usually are, consisting of mere cart tracks, more or less worn into deep ruts, according to the nature of the soil.

4. The road from Hansote to Randeir through Oolpar was laid out, as much of it as goes through this collectorate, by Mr. Bellasis, and is quite straight; but though only a year old, is almost as much cut up as the original track. The straightness of this road is much in its favour, all the other roads that I have named being more or less circuitous.

5. I presume it is not in contemplation to make the roads fit for traffic during the monsoon, so I shall confine my suggestions to repairs necessary for the improval of fair-weather traffic.

6. The road through Oolpar to Randeir is sufficiently straight, but would be much improved by the outlay of some rupees on a bridge that is required over a small nullah near Tullarma, also on a bund of earth at the Keem river, and at the Kharee on the Macma side of Oolpar. In addition to this sum, an annual sanction of money necessary to repair the road after every monsoon, is in my opinion advisable.

7. The other three roads that I have mentioned, might with advantage be straightened; if this is sanctioned before the monsoon, all land that is required for the purpose can be exchanged before the next year's crops are sown.

8. As regards cross roads, I know of none that are specially necessary, except perhaps one from Purkesur to join the Taptee crossing at Mottea Wuracha; but the mamlutdars, to whom I understand by your letter that you have applied for information, will be better able to inform you correctly on this point. I do not suppose one cart more will be used on the roads, though in good repair; so I think that if the worse parts of each road were repaired, and bridges or embankments on a small scale erected here and there, that no further outlay of money on the roads is necessary, or likely to be attended with any proportionate return, either in respect of increased traffic, or a more speedy delivery of goods.

9. If I might be informed what amount of money Government are disposed to sanction towards the repairs of these roads, and which lines of roads are in your opinion the most useful to be commenced with, I would go along each road, and report where the money sanctioned would be expended with the greatest advantage.

III.
Bombay.

Enclosure 3, in No. 61.

LETTER from Mr. *A. Rogers*, Collector of Surat, to Mr. *S. Mansfield*, Revenue Commissioner, Northern Division; dated 19 February 1862 (No. 185).

IN reply to your letter of the 4th instant, No. 266, I have the honour to report that no answer has been received from the superintending engineer on the subject of the crossing over the Keem river at the village of Kudrama. The necessity for the work, however, has since been obviated by the railway company having, on my representation, consented to make Canolee, in the Unkleshwur pergunnah, a goods station, and by the proposal, already before Government, to make two cleared roads to it from Hansote and Katpore, the latter being joined by a short branch from Elao. A dam to keep the water at spring tides out of the creek near Oolpar has been sanctioned by Government, the expense being borne by the Guzerat Port Fund, and has been taken in hand by the engineer department. Sanction has also been received for the expenditure of 50 rupees a mile in the repair of the roads cleared by Mr. Bellasis, and the work has been commenced.

2. On the general subject it appears to me that these cleared roads possess in their present state but the one advantage over the ordinary cart tracks of being straighter, and therefore shorter. The traffic of carts upon them naturally forms ruts as deep as in the so-called old roads, and they are just as impracticable during the rainy season as the latter. I have accordingly directed my attention to the subject of spending as little money as possible in filling in the ruts, and saving all I can out of the sanction, to be employed in the construction of drains, culverts, and small bridges, and in filling in natural hollows, which become nullahs on the fall of a little rain. When these are provided for, it will be advisable to proceed in the same manner by degrees to throw on sand, or any hard material, such as gravel or kunkur, procurable near the roads, in order to harden the surface, and prevent as much as possible the formation of ruts. It will be, of course, a work of years, but steady perseverance in the plan will, in the end, provide a set of roads which will be of use in the rainy as well as in the fair season.

3. Probably within two years the railway will reach Bombay, and as it is of great importance to the cotton trade of this part of the country that the loss now occasioned by large quantities of the staple being detained up-country at the end of the season, in consequence of the setting in of the monsoon wind preventing communication with Bombay by the coasting craft, I am of opinion that great attention should be paid to the completion of lines of road, that will serve as feeders to the railway at all seasons of the year. There is no doubt that the construction of roads permanently available for cart traffic will be a work of more than ordinary expense in Guzerat, in consequence of the scarcity in all parts, and in many of the utter want, of materials for roadmaking; but to make the railway of the slightest use for goods traffic for five out of twelve months in the year, the cost must be borne. The line itself will be of the greatest advantage for the transport of metalling and sand to convenient points, and it will be to the advantage of Government, who have guaranteed the payment of interest on the capital laid out upon it, to see that every avenue by which its usefulness can be increased is opened up as soon as possible. The subject has already been laid before Government by the managing agent of the railway company.

Enclosure 4, in No. 61.

EXTRACT Paragraph 12 from Colonel *Turner's* Memorandum, Public Works Department; dated 18 March 1862.

Para. 12. THE following suggestions might, perhaps, be adopted with advantage :—

1. To abandon existing lines which are extremely tortuous, often, as was formerly the case in Sind, going round three sides of a field rather than across it. Probably, were straight lines selected and existing ones abandoned, there would be more land to sell than to buy, and an equitable exchange might, in most cases, be effected.

2. Having cleared the new direct lines, all streams crossed by them should first be bridged, and in many cases it would be found that that great bugbear, absence of hard foundations, might be got over, and masonry bridges built without excavating to any great depth, provided ample water-way be afforded. The same difficulty was urged in Sind, but it was found there that if scour were prevented, deep foundations were quite unnecessary. In comparing the soil in the two countries, I am aware that they differ very much, and I would not attempt masonry ridges on shallow foundations where the soil cracks to any great depth; but many places will be found where the soil remains solid in the dry weather, and there a few inexpensive masonry bridges might be tried experimentally. Where the soil shrinks and opens on drying, I would adopt light timber-piled bridges, such as Captain Playfair has so successfully introduced into the Dharwar districts. Bridges must be built, and the question as to their construction is simply one of economy.

— No. 62. —

LETTER from Lieutenant-Colonel *H. W. B. Bell*, Superintending Engineer, Northern Circle, to the Secretary to Government Public Works Department, dated 23d May 1862 (No. 1260).

I HAVE the honour to return the correspondence, forwarded for my report with Colonel Turner's endorsed memorandum, No. 2533, of 1862, dated 5th inst.

2. As since the time that Captain Trevor (who was or had been a member of the Guzerat Ports Committee) offered his services in 1859 to carry out some sanctioned works of jetties and piers out of the Guzerat Port Fund collections, this work has always been in the hands of the Deputy Consulting Engineer for Railways for the time being, and is now in charge of Captain Greig, I referred the correspondence on the subject of proposed jetties as coast termini for cotton tracks to that officer, and beg to annex, for your information, his letters in reply, Nos. 601 and 651 of 1862, dated the 12th and 17th inst. respectively.

3. With the single exception of the once commenced, and subsequently suspended, work of a steamer pier in the port of Surat, the whole of the bunders, piers, and jetties, noticed in Captain Greig's letters, are only available for use by country craft, which, as stated by Mr. Ashburner, cease, except at enormous freights, to ply along the coast after the setting in of the south-west winds.

4. To remedy this evil, and to save the cotton merchants from the asserted costly alternative of sending their cotton (supposed to have fallen from its present high price) to Bombay by rail, Mr. Ashburner proposes to construct steamer piers at the cotton ports.

5. I conclude he refers only to the ports of Surat and Gogo, for at none others within the Gulf of Cambay could steamer piers be constructed; and supposing it possible to construct (though I greatly doubt this) piers near the mouths of the Oorunga or Par rivers, sheltered from the strong south-west winds, and approachable by steamers, cotton, to reach these termini, must come by rail from the north, and might as well be carried on by rail.

6. At Gogo, no jetty or pier could be constructed, but at great cost, of sufficient length to admit of steamers and other large vessels lying alongside its head; but the question of such a pier will deserve consideration when, on the completion of the road from Gogo to Dhundooka, and on the, at least anticipated, silting up of the port of Dhollera, the port of Gogo shall have absorbed the greater portion of the traffic of Kattiawar. I believe, however, that without any such pier, from the position of the port of Gogo, sheltered by the promontory of Koorah and the island of Peerim, a steamer could lie at anchor and be loaded by boats from the existing bunder up to the latest date before the actual burst of the monsoon.

7. At Surat, the work of the steamer pier might be resumed, if the reasons for its suspension, noticed in Captain Greig's letter, No. 651, of the 17th inst., paragraph 2 (which, I would observe, manifest views diametrically opposed to those brought forward by Mr. Ashburner), are no longer considered sound. Its probable cost is mentioned in Captain Greig's paragraph 1.

Enclosure 1, in No. 62.

LETTER from Captain *T. M. Greig*, Officiating Deputy Consulting Engineer for Railways in Guzerat, to the Superintending Engineer, Northern Circle, Surat; dated 12 May 1862 (No. 601).

IN reply to your letter, No. 1111, of the 8th instant, and accompaniments, herewith returned, I have the honour to enclose a list of the jetties and other works of improvement constructed or proposed at the ports of Guzerat, with their actual or estimated costs.

III. Bombay.

2. I am not aware that any of these works have been unsuccessful. The wooden jetty near the Fort of Surat appears to be much used, and well adapted for the purpose, and I have no doubt that a similar jetty now in progress at Randeir will be of great advantage to the shipping. These are the only ones I have seen.

3. The actual cost of these bunders, which are only adapted for small coasting craft, will not bear out Mr. Ashburner's opinion, that rude jetties, similar to those in the Mississippi, might be built for steamers at the Guzerat ports, at a trifling expense. In America, I believe, owing to the abundance of timber fit for the purpose, bunders of wood may be constructed at a small cost; but in Guzerat, teak, the only material of the sort generally useful, is very expensive, and therefore the project of constructing wooden bunders at its ports would prove costly in execution. In America, planked roads, railways carried over piles, in lieu of earthen embankments, and wooden bridges of large spans, are common; all proving the great abundance and cheapness of wood. In Guzerat, I need not point out that works of the sort would be more expensive than any others.

4. I would submit for your consideration the advantage of perfecting one means of exit for the Guzerat cotton before spending money on another distinct means. Either the cotton may be sent by railway to Surat and, on completion of the line, to Bombay, or by boats to Bombay, and feeders may either be constructed to the railway stations, or to the Guzerat ports, when expensive bunders will also be necessary. Perhaps both these means of exit might be encouraged with ultimate advantage to the cotton interest, but the cost to be borne by Government would then at least be double that of one route, and there would be greater danger, either from want of funds or scarcity of workmen, of neither feeders to the railway, nor those to the cotton ports, being soon completed were both attempted. I should think that the dealers in cotton would prefer one perfect means of exit for their goods to two imperfect, from their incompleteness; and certainly, if one route would suffice, it is not the interest of Government to spend money on two.

5. I presume that if one route be encouraged for the present, the railway will be selected. The railway from Ahmedabad to Broach and Surat will be completed certainly in next cold weather, and would provide every facility for the transport of cotton to those ports if roads were constructed to pierce through the cotton districts, and guide their produce to the stations.

6. If Government were to sanction the cost of constructing bunders at, and road-feeders to, the Guzerat ports, they would be encouraging, at great expense, a serious opposition to the railway for no necessity that I can see, and probably with much loss to themselves by decreasing the profits, and increasing the amounts payable for interest to the shareholders of the railway.

7. It is hoped that the railway will be found capable of conveying, at a cheap rate, by far the greater portion of the Guzerat cotton to convenient ports, and I trust that no works will be sanctioned which would have the effect of diverting traffic from it. I would submit that, at all events, it would be well to test the capabilities of the railway before incurring a heavy expense for works which, if the railway succeeds, will be found of little use.

LIST of the Works of Ports Improvements in Guzerat, under the Deputy Consulting Engineer for Railways in Guzerat, completed or proposed.

One earthen road and wharf at Khoon Bunder of Dhollera, the wharf completed at an expense of Rs. 3,590. 6. 4.

One wooden jetty at the Chaput Bunder of Surat, completed at a cost of Rs. 11,201. 11. —285 feet extended, 20 feet wide.

One wooden jetty at Tunkaria Bunder, length 200 feet, completed, but the accounts not yet closed.

One wooden cotton pier at Randeir, in progress, 260 feet in length, at an estimated cost of Rs. 14,286.

One wooden jetty at Bulsar proposed when funds will be available, 200 feet long, at an estimated cost of Rs. 8,763.

Two earthen bunds at Gogo for the diversion of the Bhoomlee Nullah into the Gogo Creek, completed at Rs. 10,564, and are subject to occasional repairs.

Enclosure 2, in No. 62.

LETTER from Captain *T. M. Greig*, Officiating Deputy Consulting Engineer for Railways in Guzerat, to the Superintending Engineer, Northern Circle, dated 17 May 1862—No. 651.

IN reply to your letter No. 1189, of the 14th inst., I have the honour to inform you that the Steamer Pier, opposite to the gaol at Surat, was commenced under the authority of a Resolution of Government, No. 2848 of the 14th August 1860, which sanctioned

tioned the work at an expense of Rs. 22,700, of which Government was to contribute one-half from the Guzerat Port Fund, and the Surat municipality the other half.

2. An expense of Rs. 789. 9. 9. was incurred on the pier, when His Excellency the Governor, on a visit to Surat, decided against its further progress. The reasons for His Excellency's orders are not on record, but I am informed that the construction of the railway through Guzerat to Bombay rendered the further prosecution of the pier, in his opinion, inadvisable.

3. Under these circumstances, there is no intention of resuming the work.

RESOLUTION.

THESE papers open up the whole subject of giving facilities to the trade of Guzerat, by the formation of roads and piers.

2. The question of roads, hitherto one of difficulty in Guzerat, is now much simplified by the construction of a railway through the heart of the province. But, unless roads are planned and constructed upon a system, the result will be disappointing. A list of feeders to the railway has already been carefully prepared in the Public Works Department, and these should be constructed either as tramways or common cross country roads, according to the requirements of traffic, or of the people. Local wants may safely be left to the judgment of local collectors and committees, but the general wants of the province should be provided for on a definite plan, and this, his Excellency the Governor in Council thinks, can be best matured by the chief of the Public Works Department. Piers are legitimate objects on which to expend the surplus of port funds. The Surat Pier for passengers and traffic, to the construction of which the municipality of that city have offered to contribute half the expense, should be proceeded with under the sanction, No. 2848 of 14th August 1860, already accorded. For the proposed pier at Gogo, a plan and estimate might be submitted, provided the project is considered sound by a competent engineer officer of the Public Works Department.

— No. 63. —

No. 15 of 1862 —Revenue Department.

To Her Majesty's Principal Secretary of State for India in Council, London.

Right Honourable Sir,

WE have the honour to inform you that we have permitted Dr. G. F. Forbes, superintendent of the Cotton Gin Factory at Dharwar, to obtain from England a supply of the cast-iron materials, including frames, &c., to suffice for 600 gins, together with 150 lbs. of hog's bristles for gin fanners at a total estimated cost of about 40,000 rupees.

2. The expense thus incurred, we beg to observe, will not be a charge on Government, but an advance to be recovered hereafter, together with a small percentage, by the sale of the gins.

3. We, therefore, request that you will have the goodness to cause payment to be made to the manufacturers, who will be desired to submit their bills to you for that purpose, the amount being debited to this Presidency, where it will be ultimately recovered from the purchasers of the gins.

We have, &c.

Bombay Castle,
27 September 1862.

H. B. E. Frere.
W. Mansfield.
W. E. Frere.
J. D. Inverarity.

III.
Bombay.

— No. 64. —

No. 17 of 1862—Revenue Department.

To Her Majesty's Principal Secretary of State for India in Council, London.

Right Honourable Sir,

WITH reference to your Despatch No. 12, dated 28th February 1861, we have the honour to forward copy of a letter from Dr. G. F. Forbes, dated 4th August 1862, detailing the manner in which he rendered assistance to Mr. Haywood, agent of the Manchester Cotton Company.

We have, &c.

Bombay Castle,
27 October 1862.

H. B. E. Frere.

W. E. Frere.

J. D. Inverarity.

Enclosure in No. 63.

No. 2899 of 1862—Revenue Department.

To Dr. G. F. Forbes, Surgeon Major, Dharwar.

Sir,

WITH reference to your letter,* dated the 9th ultimo, I am directed to request that you will be good enough to report in detail, for the information of his Excellency the Governor in Council, the assistance which you have rendered to Mr. Haywood, and to explain the manner in which you have provided for the duties of your office during your absence on special duty.

* Reporting the completion of the special duty upon which you were deputed from England, and requesting instructions with regard to resuming the duties of your appointment at Dharwar:

2. I am at the same time desired to request, that you will state whether you have any suggestions to offer for your employment hereafter.

I have, &c.

J. B. Peile,

Bombay Castle, 26 July 1862.

Under Secretary to Government.

From Dr. G. F. Forbes, Surgeon Major, Dharwar, to J. B. Peile, Esq., Acting Under Secretary to Government.

Sir,

I HAVE the honour to acknowledge the receipt of Government letter in the Revenue Department, No. 2899, of the 26th ultimo, and to forward the required report.

2. When at home, I had strongly urged on the Manchester people the advisability of their forming a company to take up the cotton trade in the Southern Mahratta country, and deal as directly as possible with the ryots, thus obviating the necessity for the intervention of the number of hands which now come between the first producer and the consumer of cotton, to the enhancement of the cost and the great adulteration of the staple. I proposed that this company should organise in cleaning and pressing establishments, and ship direct to England from Sudasewghur, the opening up of which had been promised by Government. After some negotiations, the company was formed; but before taking any steps for bringing it into active operations, I was desirous that the Directors should depute a person, in whom they reposed trust, to verify on the spot all that I had stated to them with regard to the eligibility of the enterprise, and thus relieve me to a certain extent of responsibility; and by orders of the Home Government, I was associated with any person who might be deputed on this mission.

3. Mr. Haywood was selected for this purpose. His first mission was limited to the above object alone, but subsequently the Cotton Supply Association thought proper to avail themselves of the opportunity of his going out to India to institute inquiries regarding other parts of this country which might hold out advantages for similar enterprises.

4. We left England in the beginning of July, and remained in Egypt a fortnight, for the purpose of making inquiries regarding the cotton trade there, and to what extent it might be extended.

5. We arrived in Bombay in the end of August, expecting, from information we had received at home, to find the transfer of North Canara to the Bombay Presidency completed, and the Bombay Government in a position to afford the company all necessary facilities.

facilities at Sudasewghur. On arrival, however, we did not find matters relating to the transfer as far advanced as was expected, and we were consequently delayed for a time in Bombay. We took advantage of this delay to visit Sholapoor, and make inquiries regarding the supplies of cotton coming to the rail, the manner and expense of its conveyance, and the expediency of establishing cotton presses at that place.

6. In the beginning of October, we went down to Sudasewghur to meet the Governor of Madras, hoping that something definite would be then arranged, in which expectation, however, we were disappointed.

7. From Sudasewghur, we went to Tuddry and Coompta, in order to compare the facilities for export afforded by those places with those afforded in prospect by Sudasewghur. From Coompta, we went up by the regular line of cotton traffic to Dharwar, and thence to the Dharwar cotton districts, making a most careful and minute examination of the cotton districts of that collectorate; extending also our researches into the adjacent districts of the Bellary Collectorate, to which we were surprised to find that the culture of New Orleans cotton had extended from the Dharwar district, that it was grown to a considerable extent, and was thoroughly appreciated by the ryots.

8. From the Dharwar districts, we returned to the coast and Sudasewghur in the middle of December, in order to negotiate with private parties for land, having reason to believe, from information received from home, that the accomplishment of the transfer would not be long deferred. After completing arrangements regarding land, as far as was at that period practicable, we went to Bombay with the intention of prosecuting further inquiries in other districts.

9. From Bombay, Mr. Haywood made a trip up the Thull Ghât line as far as the rail was open, and thence on through the intervening portion of Khandeish into the western districts of Berar, which trip occupied him about three weeks. I made suitable arrangements for his obtaining every information, and remained myself in Bombay to prepare for an extensive tour through Guzerat and Kattywar. We had received intimation that a ship laden with machinery had left England for Sudasewghur on the 9th December, and it was only necessary that we should be back there before her arrival.

10. Mr. Haywood returned from Berar on the 1st of February, and having just received the unexpected intimation that Mr. Fleming, the chief engineer to the company, had also been appointed "General Manager," and that he might be expected in Bombay by the end of that month (February), deemed it essential that he should be back in time to receive him. This limited the period available for Guzerat. We, however, did as much as time would admit of, visiting Surat, Gogo, Bhownuggur, Dhundooka, Dhollera, and thence to Broach and back to Bombay, where we found Mr. Fleming waiting for us.

11. From Bombay we proceeded to Sudasewghur, Mr. Fleming following us. Mr. Fleming had been led to believe at home that he would find a pier and other appliances necessary to the landing of heavy machinery; but on arriving at Beitkul, and finding no such preparations, and being perfectly new to this country, he was entirely at a loss how to proceed, or what to do. After taking some days to look about him, he applied to me, stating that he was entirely unable to devise any means by which he could land the machinery on the arrival of the ship, then daily expected. On this, at the earnest request of Mr. Haywood and Mr. Fleming, I engaged to undertake the work, and do my best to carry to a successful issue. This I accordingly did, availing myself of all means that I could obtain from the neighbouring country, and from the Government stores. By the time the ship arrived (9th May), I was quite ready for her, and the landing of the cargo was at once proceeded with, and nearly completed. When I found that Mr. Haywood had taken steps in regard to the future management of the company, which, in my opinion, would prove highly detrimental to its prospects, and not wishing it to appear that I encouraged, or countenanced, measures which I felt satisfied would prove highly detrimental to the interests of the company, I withdrew from any further concern with their affairs. I wrote home to the chairman of the company a detailed account of what had passed, and gave him advice regarding remedial measures, which I expect will be adopted, and will yet, though at the sacrifice of some valuable time, set matters right.

12. Regarding the question at the end of the first paragraph of the Government letter under reply, asking how I have provided for the duties of my office during my absence on special duty, a deduction was made from my pay to provide for the officer performing my medical duties. The business of the cotton gin factory was conducted by the mechanical superintendent, Mr. C. M. Courpalais, who reported to me monthly at home; and since my return to India I have been able to exercise more close supervision on him both by personal communication and by correspondence.

13. By the second paragraph of the Government letter under reply, I am requested to state whether I have any suggestion to offer regarding my future employment. I consider that my retaining charge of the cotton gin factories in these districts for some little time to come most necessary, and the increasing difficulty regarding the supply of cotton renders the necessity more evident than ever. On an adequate supply of machinery for cleaning, the extension of cotton production in these and adjacent districts is entirely dependent. American cotton cannot be cleaned otherwise than by saw gins. The remark-

III.
Bombay.

able and steady increase which has taken place in the cultivation of this species in the Dharwar districts has been simultaneous with increased supplies of efficient machinery. The soil and climate of adjacent districts in the Belgaum Collectorate, in Bellary, the Raichoor Doab (and in Mysore also, I believe,) is equally suitable for American cotton. A great demand for gins exists in all those districts, especially in Bellary and Raichoor, which restricted means have not enabled me to meet. Were those demands met, I have little doubt that the cultivation of the American variety, which has already spread there, would increase in the same manner as it has in Dharwar, and ultimately in many localities entirely supplant the native variety. The advantages of this anticipated result are evident. Adulteration of the superior variety with the inferior, now so unhappily prevalent, must decrease as the supply of the inferior quality decreases; and as the American variety gives about 50 per cent. of clean cotton per acre more than the native kind, both the cultivator and the consumer must largely benefit by its introduction.

14. The above considerations lead me to believe that the extension of the supply of cleaning machinery to the utmost available amount is of the first importance; and as regards myself, for the reasons stated in my letter to the acting chief secretary of the 8th April last, I am anxious to complete the work I have commenced.

15. I might indeed combine my former medical and other duties with the charge of the factories,* but since the extension of the factories to the districts (which occurred just before I went home, by the institution of branch factories at Kurujghy and Guduk), and the probability of further extension being called for, it is expedient that I have the disposal of my time in my own hand without being obliged to consult the convenience of other parties, who would have to relieve me of my medical and other duties during my absence from the station. The direction and supervision of the factories will not occupy my whole time, but I would prefer it, if Government should see fit to employ my surplus time in some other manner than by directing me to resume my former station duties. In previous years I had occasion to pay considerable attention to forest matters; first, the connexion with providing supplies of timber for the factory, for which purpose a tract of forest in Canara was made over to me by the Madras authorities, and afterwards with a view to succeeding Dr. Gibson in his anticipated retirement, for which purpose I was, by order of Government, associated with him for several months. With the above experience in forest matters, I think I could do justice to any charge Government might think fit to entrust to me in the forests in this vicinity.

I have, &c.

G. F. Forbes,

Surgeon Major.

Dharwar, 4 August 1862.

RESOLUTION.

* *Vide* letter to Her Majesty's Principal Secretary of State for India in Council, No. 17, dated 27 October 1862.

DR. FORBES'S Report to be forwarded to the Home Government*, and he should be informed that Government propose to relieve him from his duties as civil surgeon of Dharwar, and appoint him superintendent of Sadasewghur. He should retain charge of the cotton gin factory, and spare no pains to extend its operations.

— No. 65. —

No. 20 of 1862—Revenue Department.

To the Under Secretary of State for India, London.

Sir,

I AM directed by His Excellency the Governor in Council to forward, for submission to Her Majesty's Principal Secretary of State for India in Council, 70 copies of the Selection from the Records of this Government, No. 67, New Series, containing Dr. Forbes's Report on the cotton gin factory in the Dharwar Collectorate, for the half-year ending 31st May 1862.

2. I am, at the same time, directed to inform you that 12 copies of the selection have been sent direct to the Manchester Cotton Supply Association.

I have, &c.

A. D. Robertson,

Acting Chief Secretary to Government.

Bombay Castle,
27 November 1862.

Enclosure in No. 65.

SELECTION from the Records of the Bombay Government.—No. LXVII.—New Series.

REPORT on the Cotton Gin Factory in the Dharwar Collectorate, for the half-year ending 31st May 1862, with Letters from the Revenue Commissioner, S.D., and Surgeon Major Forbes, Superintendent, Cotton Gin Factory, Dharwar.

No. 2535, of 1862.—Revenue Department.

From the Revenue Commissioner, S.D., to the Acting Chief Secretary to Government.

Sir,

I HAVE the honour to submit, for the purpose of being laid before Government, a letter from Surgeon Major Forbes, Superintendent of the Cotton Gin Factory in the Dharwar Collectorate, giving cover to the half-yearly report of the factory for the term ending 31st May last, during which it was continued under the immediate management of Mr. Courpalais, its mechanical superintendent.

2. In forwarding Dr. Forbes' letter, Mr. Gordon, acting collector of Dharwar, writes* as follows :—

"2. I take this opportunity of stating my conviction of the necessity for speedily applying some remedy for the evils which the wholesale adulteration of the Dharwar grown exotic cotton will certainly produce.

"3. I am sure that a moderately stringent law could be worked successfully and without oppression and if its operation were restricted to three years, I think all the objects for which we contend would have been secured.

"4. Every rise in price causes an increase of adulteration; accordingly I have been told that the cotton sold during the past season was much of it execrable.

"5. So far has it now gone that neither native merchants nor cultivators can be seriously blamed; pure seed can hardly be procured, and year after year the proportion of inferior cotton increases.

"6. The fact is that anything that can be called cotton is readily saleable at the highest market rate. I know that rejected samples are almost invariably instantly resold without loss. Both the cultivators and the native merchants have thus a direct and immediate interest in increasing the adulteration.

"7. It is unreasonable to expect these men to look forward beyond the present time; but there can be no doubt that the course they are pursuing will end in destroying the trade, and when a fall of prices does take place they must suffer severely.

"8. In my opinion nothing but the direct interference of Government can prevent this. European agency cannot prevent it, for the agents must execute the orders they receive, and must buy the best cotton they can procure in the market. The mere personal influence of the collector and his assistants cannot affect the present enormous trade, though it was, no doubt, sufficient in its earlier stages. A rise of prices tends rather to increase adulteration."

3. The extent to which the adulteration of the cotton, on which the credit of the Dharwar cotton market depends, with inferior staple is described in paragraphs 45 and 46 of Dr. Forbes' letter, and in his 47th paragraph he briefly adverts to the consideration which forms, I think, the only reasonable ground for the interference of the legislature to prohibit the intermixture of good and inferior cotton while being prepared for the market. Were the interests of individuals only concerned, I should be inclined to leave them to take care of them; but there is no doubt that the future well-being of a whole country suffers by the practice described by Dr. Forbes, which is one that the efforts of individuals are not likely to correct.

4. Dr. Forbes, in his 51st paragraph, points to the desirableness of encouraging European agency as one of the means of correcting the mischievous tendency of the conduct of native dealers, who, reckless of every consideration but that of immediate profit, are ready to make up and sell any trash out of which, under the name of cotton, they can make money.

* Letter No. 1005 of 3d September 1862.

III.
Bombay.

money. But I fear that the only European agents that we can expect to undertake business in the markets of the Dharwar cotton country are the agents of cotton merchants who will buy to sell again, and not the agents of the manufacturers, whose only object it would be to obtain the staple best suited to their purposes. Were the manufacturers or their agents to enter the markets at the place of production, I have little doubt that the cultivation of inferior cotton in lands capable of growing the best would be completely checked, and the adulteration of the superior sort be put an end to. But notwithstanding that one of the latest books on political economy condemns the ordinary maxim of merchants that "their legitimate function is to buy in the cheapest market and sell in the dearest, in obedience to the law of supply and demand," by declaring that it is but the function of rats and other base animals to support themselves by having regard only to laws of demand and supply, and that "the distinction of humanity is to live by those of right;" and though the author of the same book, in defining the duty of a merchant, holds that one of the two cardinal points of that duty is to ensure "the perfectness and purity of the thing provided" by him, "so that rather than consent to any deterioration, adulteration, or unjust and exorbitant price of that which he provides, he is bound to meet fearlessly any form of distress, poverty, or labour which may, through maintenance of these points, come upon him," I see too much reason to fear that the agent of a merchant (of whatever nation) who buys to sell again will, if he finds that he can make more money profit by dealing in rubbish than in pure cotton, consider himself bound rather by what the author quoted above regards as the instinct of rats than by what he holds up as the duty of man.

5. I am therefore obliged to agree with Messrs. Gordon and Forbes that the action of the law is necessary to prevent the adulteration of cotton, on the purity of which so many interests depend.

6. In the preamble of Regulation III. of 1829, the evil which it was intended to counteract is described to be the "numerous and various kinds of frauds committed in the packing and preparation of cotton for sale, to the great detriment and injury of the trade in that staple commodity;" but by a manifest and absurd oversight, the law passed to remedy this evil is so worded that no offence is declared to have been committed till the adulterated cotton is sold or offered for sale, though there can be no doubt that cotton is not packed in the manner described except for sale thereafter, and that the evil described in the preamble of the law has been completed in its packing.

7. It would, I think, be an unfair straining of the intention of sections 425 and 426 of the penal code to hold them applicable to the owner of originally valuable cotton prepared for the market by a process "diminishing its value or utility," when that process consists only in mixing with it inferior cotton, notwithstanding the extraordinary latitude given to the former of those sections by the second "explanation" annexed to it. But I am not prepared to deny that a cotton cleaner who assists the owner of cotton in adulterating it in the manner described by Dr. Forbes, will render himself amenable to the punishment of abetting the offence described in Regulation III. of 1829, under section 116 or 120 of the penal code, which sections do not require proof of the completion of the offence abetted to make acts of abetment or concealment punishable.

8. Dr. Forbes, in his 55th to 58th paragraphs, states his opinion as to the nature of the local enactment which his experience has led him to consider desirable.

9. The information with which Dr. Forbes' letter abounds is so full that I should think it presumptuous in me to attempt to add any observations of my own. Government will, no doubt, notice with interest the manner in which, in his 20th paragraph, he accounts for the improvement of the character of the exotic cotton from the disappearance (owing to one of the fluctuations of cultivation) of all seed except that of first-rate quality. The suggestion made in his 23d paragraph is a very valuable one.

10. The particular attention of the Madras Government and of the Commissioner in Mysore might with advantage be drawn to the 34th and few following paragraphs of Dr. Forbes' letter.

11. Since my receipt of this letter, Dr. Forbes has made arrangements for visiting some iron foundries in this country, for the purpose of ascertaining if it will not be possible for him to obtain from them such castings for the gins made up in his workshops as will obviate the expense and delay of importing them from England.

I have, &c.

Poona, 10 October 1862.

W. Hart, Revenue Commissioner, S.D.'

INDEX TO SUBJECTS OF FOLLOWING LETTER.

	PARAS.		PARAS.
Early experiments under Dr. Lush - - -	1 to 3	causes; desirability of meeting it, and reasons - - - - -	40 to 44
Partial success of early experiments—Want of proper cleaning machinery - - -	4	Adulteration - - - - -	45 to 47
Renewal of experiments under Messrs. A. N. Shaw and Mercer - - - - -	5 to 9	Value of unadulterated American cotton in home market - - - - -	48
Decrease and unpopularity of cultivation of exotic cotton consequent on injudicious interference with the ryots - - - - -	10 to 12	Probable supply of American cotton available from Dharwar and contiguous districts - - -	49 & 50
Delicacy of cotton plants in early experiments - - - - -	13	Necessity for European agents in the districts - - -	51 to 53
Rapid increase of cultivation when not interfered with - - - - -	14	Adulteration by native dealers, and remedy - - -	54 to 60
Extension from Dharwar into adjacent districts - - - - -	15	Want of cleaning machinery for native cotton—Failure of various attempts to devise it - - -	61 to 64
Belgaum experiments—Indifferent success from faulty machinery - - - - -	16 & 17	New churka gin for native cotton - - -	65 to 67
American cotton become more hardy in recent years—Deterioration of newly imported seed—Acclimatization—Fears of hybridising groundless—Care necessary in selection of seed - - - - -	18 to 23	Advantages of suitable machinery for native cotton, and unsuitableness of saw-gins - - -	68 & 69
Check in increase of cultivation in Dharwar—Machinery in fault—Remedial measures—Introduction of cast-iron machinery - - -	24 to 32	Cleaning machinery required for Berar, and all thinly-populated districts, to ensure extended cultivation - - - - -	70 to 72
Great increase of American cotton in Dharwar after improvement in machinery - - -	33	Quality of Indian cotton not known at home from prevalent adulteration and want of care in picking - - - - -	73 to 76
Machinery requirements in Bellary and Raichore - - - - -	34 to 38	India can give cotton of required quality, but European agencies in districts can alone procure it - - - - -	77 to 79
American cotton in Mysore - - - - -	39	Increasing facilities of communication fully open the country to European enterprise - - -	80 to 82
Present enormous demand for machinery, and		Great demand for machinery at present—Means adopted to meet it; cost Government nothing - - - - -	83 to 86
		Supply of cotton available for export from Sudasewghur - - - - -	87 & 88

(No. 33 of 1862.)

To the Collector of Dharwar.

Sir,

IN forwarding the enclosed report by the Mechanical Superintendent of the operations of the Dharwar Cotton Gin Factory for the half-year ending 31st May last, I beg to add the following remarks with reference to the causes which have of late years led to the greatly increased cultivation of American cotton in these districts, and the measures which appear to me to be required to secure a still further extension.

2. A brief notice of the progress made from the first efforts to introduce this description of cotton up to the present time will serve to explain these remarks, and may also be of use in throwing some light upon the causes which led to the failure of similar attempts in other districts.

3. The first experiments were instituted as far back as 1829 under the late Dr. Lush, and were continued up to 1836, when they were abandoned.

4. The successes of these experiments were reported by Dr. Lush as “various,” but he seems to have attributed the final failure to the want of proper machinery. The specimens of the produce sent home were reported as “much injured in cleaning,” the machines employed being the Whitney saw-gins as imported from America. With reference to this point Dr. Lush himself states:—“Much time has been lost by assuming that the Whitney saw-gin ought to answer here because it does in America. Of this there is now, I believe, no chance. We do require a machine to effect for our cotton what Whitney saw-gin has done for America, but the machine is yet to be invented.”

5. In 1840 the Court of Directors resolved upon resuming endeavours to introduce a superior description of cotton into India, and for this purpose obtained the services of experienced planters from America. Supplies of American cotton seed were also procured and sent on to Bombay.

6. In the monsoon of the following year the Collector of Dharwar, Mr. Shaw, obtained a sufficient quantity of this seed to sow 10 acres of land; but owing, it was supposed, to deterioration which the seed had undergone, the proportion of plants that appeared was comparatively small, and the produce very scanty, amounting in all to 41 lbs. of clean cotton, or 4 lbs. per acre.

7. In the following year the experiment was repeated on a small scale, with somewhat similar results, and whilst the crop was on the ground, Mr. Mercer (one of the American planters above alluded to) arrived to take charge of the Dharwar experiments.

8. From Mr. Mercer's report two points would appear to have been established from the above trials—first, that under certain conditions (which, however, were not perfectly understood)

III.
Bombay.

understood) the plant would grow and thrive in these districts; and, secondly, that its produce was superior to that of the indigenous cotton.

9. In the following year (1843-44) operations were greatly extended, experimental farms were established, fresh supplies of seeds were obtained and distributed to the ryots, and the total quantity sown amounted to 545 acres. In the succeeding years, up to the season of 1847-48, the cultivation increased rapidly, attaining in the latter season to 20,502 acres.

10. This result, at first sight, appeared highly encouraging, but it subsequently transpired that it had only been attained under a system of pressure, brought to bear upon the cultivators through the native government officials, for on the removal of this pressure during the following year the cultivation fell at once to 3,351 acres.

11. Mr. Mercer, whose emoluments were dependent upon the successful introduction of this description of cotton, left the districts finally in the beginning of 1847. Mr. Shaw also went to England in the end of the same year; and Mr. Goldfinch, whilst in temporary charge of the collectorate, brought forward the fact of the injudicious interference with the ryots having made the cultivation of this cotton unpopular. Upon this representation all interference was withdrawn; the ryots were freely left to their own choice, and in the succeeding season of 1848-49 the cultivation as above mentioned fell from 20,502 to 3,351 acres.

12. Mr. Bell, who shortly afterwards succeeded to the collectorate, was called upon to report upon this sudden decrease, and did so in the following terms:—

“The chief cause of the decrease of cultivation this year is, there can be no doubt, the fact that the cultivators have, for the last two or three years, been, in a great measure, compelled to cultivate the New Orleans cotton. The mamlutdars, misapprehending the tenor of orders issued by the late Collector, and by Mr. Mansfield when Acting Collector, have carried their interference with the cultivators in behalf of this cotton beyond mere persuasion, and the people have no hesitation in declaring that, having for several seasons cultivated the New Orleans cotton in obedience to the orders of the Government, and annually suffered loss by so doing, they gladly abandoned it when they were given to understand that the cultivation of this cotton was optional with themselves.”

13. During the whole of the first period (from its commencement in 1841 up to 1847-48), the results were extremely various. In some instances very fair crops were produced, in others (which embraced the majority) the returns were more or less unfavourable, and the general opinion, both amongst Europeans and natives was, that a degree of delicacy and capriciousness was inherent in the plant, which must preclude its ever coming into general use.

14. In 1848-49 a new period commences, which may be called that of free cultivation, the ryots having been left entirely to themselves. From that time forward, with one or two checks, the increase has been steady up to the past season, in which, in the Dharwar Collectorate and the jagheers included within its boundaries, it amounted to 214,310 acres.

15. In addition to the area above shown as existing within the Dharwar Collectorate, the cultivation of American cotton has, to my own knowledge, extended over the Dharwar frontier into the Raichore Doab and to the Bellary districts of the Madras Presidency. I have no data to show the extent to which it has spread, but in the last-named district I have seen villages in which the New Orleans and native cottons were growing in nearly equal proportion.

16. In the Belgaum Collectorate an attempt was made (detached from that of Dharwar) to introduce American cotton, commencing in 1845, under Mr. Channing, who had been Mr. Mercer's assistant in Dharwar, and in the season of 1848-49 the cultivation amounted to 4,189 acres. But from that period it rapidly declined, and in 1853-54 only 1,385 acres were sown, and Government then abandoned all further concern in these experiments. It had, however, been ascertained that the cultivation (as in Dharwar) had been the reverse of voluntary.

17. But there is no doubt that through the very faulty nature of the cleaning machinery, manufactured in Belgaum and distributed by Mr. Channing, the cotton was greatly damaged, and its value impaired, and consequently even such of the ryots as had obtained good crops were deterred from continuing the cultivation. The whole of this machinery was called in by Government, and in 1858 destroyed at the Dharwar factory as perfectly worthless. Since then cultivation in the Belgaum Collectorate has been confined to one district,* closely adjoining Dharwar, and it has risen in the past year to 6,620 acres, cleaning machinery being supplied from the Dharwar factory.

18. One of the most remarkable facts regarding the character of the cotton during the last 12 years has been the entire absence of the delicacy and capriciousness above noticed; and

* The Roan Mahal of the Baudaumpy Talooka.

and this circumstance is, I believe, to be attributed to an improvement effected in the seed entirely by accident.

19. With newly imported seed we find generally that the results reported are similar to those at first experienced in Dharwar. Owing to imperfect germination, the plants obtained were few, and those were more or less healthy.

20. In what I have called the first period, viz., from 1841 to 1848, the ryots were continuing to sow the produce of deteriorated seed. In the following year, when left to themselves, those only who had obtained good returns (which could alone be produced from strong and healthy plants) were the parties who continued to cultivate. All the other seed not sown was eaten up by cattle, and the country has since been supplied from the successive produce of the healthy seed above alluded to.

21. Acclimatising has doubtless had something to do with the above result; but the change which occurred in the character of the plant in the season of 1848-49 was much too sudden to admit of more than a minor degree of importance to be attached to this cause.

22. Fears have been expressed that, through the process of hybridizing, American cotton would in a few generations degenerate into the native variety; but experience in these districts has shown that these fears are quite groundless. This and the native variety have been grown every season, not only in close proximity, but even together in the same field, and each has preserved its distinctive peculiarities without the slightest tinge of those of the other being observable in it.

23. From these experiences, when future attempts are made at the introduction of exotic varieties of cotton into other districts of this country, the expediency is apparent of exercising especial care over the selection of the first plants from which seed is taken, and of subsequently securing a succession of good seed by weeding out all unhealthy plants for the first year or two.

24. I now revert to the Dharwar Collectorate. As previously mentioned, during the first year of free cultivation (1847-48) the extent sown fell suddenly to 3,351 acres. It then rapidly increased until 1854-55, when it arrived at the amount of 63,298. This, however, was succeeded by a decrease in the following year of upwards of 12,000 acres, the quantity sown (in 1855) being 50,802 acres.

25. In May 1855 I was permanently placed in charge of the Cotton Gin Factory. I found much discontent existing amongst the cultivators and dealers, owing to the unsatisfactory description of machinery supplied to them from that establishment.

26. They complained that not only was the expense of cleaning their cotton thereby considerably increased, owing to the diminished out-turn of work as the gin got out of order, but that from the same cause and the difficulty of obtaining repairs, they were also subject to great delay and uncertainty in getting their produce ready for the market.

27. On investigating the subject, I found that these complaints were not without foundation, and that the machinery then being supplied by the factory was of the most faulty description.

28. The gins were so ill-constructed that (owing to the irregular action of the saws) they not only cut and injured the fibre of the cotton, but after a few weeks' employment certain portions of the machine worked themselves into contact with and destroyed other parts to an extent that rendered the cost of the repair nearly equal to that of a new gin.

29. This gave rise to a continued source of expense, which the people could not then afford, besides which the character and price of the cotton had become lowered in the Bombay market, where it was noted as an article to be avoided in consequence of the injury to which the fibre was subjected, and for these reasons its cultivation was again becoming unpopular in the districts, and had commenced falling off as above mentioned.

30. All these circumstances were duly reported to Government; and after careful investigation it was determined that the defective gins should be withdrawn from the districts, and others substituted on terms advantageous to the owners.

31. Meantime I had been occupied in designing and constructing new descriptions of machinery, and by the ensuing season (1856-57) cotton gins were made and introduced, which have from that time up to the present period proved to be both efficient and durable.

32. An immediate demand sprung up for these machines, which kept the factory in active and profitable employment until two years ago, that, owing to the increasing scarcity and expense of suitable timber, it was deemed necessary to make arrangements for obtaining iron machinery from England. For this purpose I was sent home on special duty, taking with me models from which the present cast-iron machinery has been constructed.

33. From the period above mentioned, at which the introduction into the districts of new and improved cleaning-machinery commenced, the steady increase in the cultivation

III.
Bombay.

III. Bombay.

of American cotton up to the present time will be seen from the accompanying diagram. The number of gins supplied in each year is also given.

34. I mention this latter circumstance to point out what might be done by their respective Governments for the neighbouring provinces of Bellary and Raichore, where the chief, if not almost the only, obstacle to the extension of the cultivation of American cotton is the want of cleaning machinery, and where the ryots are just as anxious to obtain it as those of Dharwar; and it should be remembered, on the ryot's behalf, that in cotton cultivation, where the American plant will thrive (independent of its increased market value), the introduction of it adds one-fourth to his return of produce without any additional cost or labour.

35. The former Commissioner of Raichore, Major Meadows Taylor, became aware of the necessity of providing machinery; and on meeting with him in that district in 1859, he consulted me on the practicability of establishing a branch factory in connexion with those of Dharwar, from which it could be supplied with trained work-people. The plan was arranged, but the subsequent restoration of those districts to the Nizam has prevented its being carried out.

36. During a visit I paid in November last to the Bellary districts bordering upon Dharwar, I was agreeably surprised to observe the extent to which American cotton had pushed its way into that country, and also with the appearance of the crops, which in many instances were quite equal to the best Dharwar fields.

37. But the cultivators complained that, owing to the want of gins, they were obliged to sell their cotton in the seed to such dealers as had gins in the vicinity, and to others who carried it away to their cleaning houses in the Dharwar districts. In these transactions the ryot is at the mercy of the sowcar, and suffers as a matter of course.

38. A branch factory similar to that at Kurujhy, in the Dharwar Collectorate, would prove of the utmost advantage to the Bellary districts. But in the first instance, funds from the Madras Government would be required to establish it, as the ryots are as yet by no means so wealthy as their Dharwar neighbours. In a short time, however, I have no doubt that the establishment, like those of Dharwar, would become self-supporting. The cost of the building (which would form the chief if not the only outlay) would not, with all its necessary appliances, exceed about 1,800 rupees, less or more.

39. Though I have not seen it myself, I have received reliable information that the cultivation of New Orleans cotton has also extended over the southern and south-eastern boundary of the Dharwar Collectorate into the Mysore territory. From its position with reference to the west coast, there must be a very large area indeed in that province, just as suitable for the cultivation of American cotton as the lands of Dharwar itself, and if due encouragement is given in the way of an adequate supply of the proper description of cleaning machinery, it cannot be doubted that large supplies may be obtained from that quarter at no distant date.

40. One result of the present enormously enhanced value of cotton will be observed in the accompanying report, viz. the sudden and surprisingly increased demand for cleaning machinery,—the number of applicants on the register who have deposited the usual advances amounting to 591, the value of which will be 1,38,000 rupees.

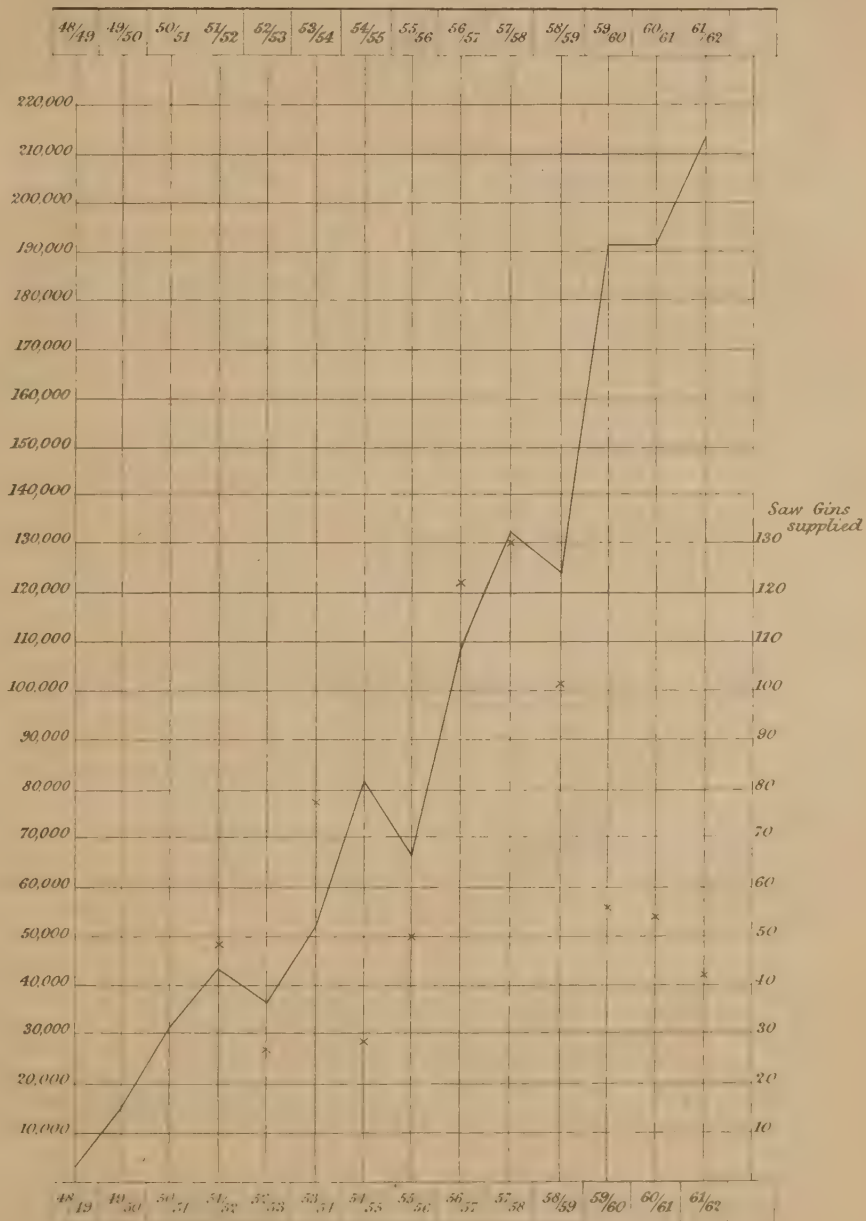
41. The cause of this is, that the money is now reaching the pockets of the ryots, and that they can afford to purchase gins for themselves, instead of depending, as heretofore, upon the dealers, to whom a large portion of them were obliged to sell their cotton uncleaned, the bargain generally depending upon the proportion of wool to seed—a point which rested upon the dealer's word, and which the ryot well knew was rarely decided otherwise than to his disadvantage.

42. It is very desirable that this demand for machinery should be met to the fullest extent, for several very important reasons. In the first place, an adequate supply will ensure the cleaning of each season's crop in sufficient time for export before the monsoon sets in, and with the prospect of good communication and direct shipment from Sudasheghur, the produce of these districts may be expected to reach England within six or seven months from the time of its being picked from the field, instead of occupying eighteen months or two years in transit, as has hitherto been the case, much to its detriment in value, owing to deterioration of strength and colour of the fibre.

43. A second advantage of a full supply of machinery will be extension of the cultivation of American cotton, it may be hoped, ultimately to the entire expulsion of the native variety for export from the Dharwar district,—an object, in my opinion, much to be desired, as the latter is not only a far less profitable crop to the ryot, but with the exception of one or two localities it is of very ordinary quality, and is chiefly made use of for admixture with and adulteration of the American variety.

44. A third advantage which would accrue from the ryot being in possession of ample means of cleaning his own crop, would be that less of it would pass for that purpose into the hands of the sowcars and dealers, and the admixture and adulteration which is now so prevalent would to a certain extent be remedied.

DIAGRAM showing the Number of Acres cultivated with New Orleans Cotton in the Dharwar Collectorate and included Jagheers from 1848-49 till 1861-62, and also the Number of Saw Gins issued from the Dharwar Gin Factory in each year since 1850-51.



Explanation.

The zigzag line across the Diagram represents acres. The point at which it crosses the line under any year represents the number of Acres cultivated in that year as deducible from the Scale of Acres on the Left. The small cross represents the number of Gins issued in each year as deduced from the Scale on the Right.

G. F. Forbes.

Superint^t Cotton Gin Factory.

45. The above-mentioned adulteration and admixture of inferior native cotton with the American variety, during the process of cleaning, is carried on openly and undisguisedly at all the cleaning establishments of the sowcars and dealers throughout these districts. Though aware of the practice, I had no idea of the extent to which it was pushed, until I paid these places a visit last season when they were at work.

46. A description of one of them (a large native cleaning establishment at Guddug) will serve as a general sample of the whole. On entering the court-yard, which was enclosed by a high wall on one side, was seen a large heap of very inferior and trashy looking native kupas, and near to it a pile of about the same bulk of very fair American seed cotton. The space in front of the gin-room was covered with a mixture of these two heaps, spread out to the sun to dry, and upon this mixture the gins were at work. Samples, both of the seed and the cotton, taken from the gins whilst at work (here and elsewhere) were forwarded by Mr. Haywood to the Cotton Supply Association with full details.

47. The injury which this nefarious practice inflicts upon the character of this produce in the home market, and consequently upon the interests of this part of the country, does not require comment.

48. The real value of pure Dharwar-grown American cotton in the English market is no longer a matter of doubt. It has been established beyond dispute that it is quite equal to the supplies from America of what is called "Middling Orleans," which is the description of cotton most in demand. In proof of this, if such were required, quotations could be furnished from the opinions pronounced by the home authorities (both spinners and brokers) upon the supplies sent to them on various occasions for the express purpose of ascertaining this point.

49. The diagram at paragraph 33 shows that within the last five years the cultivation of American cotton in the Dharwar districts has increased more than six-fold. There is no reason to doubt that this increase will continue. The demand for machinery (if it is fully met) is a guarantee that it will do so, in which case, a short time hence, the whole available area of the Dharwar cotton land will be covered exclusively with this valuable plant, and the extent under yearly cultivation, including native jagheers, will not be less than 380,000 acres, leaving about 80,000 acres of the present area of cotton cultivation for the growth of native cotton for home consumption. Bellary, Belgaum, and Raichore are immediately contiguous (where the cultivation of American cotton has already extended), and may be safely estimated at 220,000 acres more (this being not more than one-third of the area in those districts at present under native cotton). The above total area of 600,000 acres will, at four acres to the bale, furnish 150,000 bales of New Orleans cotton. From Mysore, which is also contiguous to Dharwar, a considerable addition ought to be obtainable before long.

		Last year 1861-62.		Acres.
American cotton	-	-	-	214,310
Native cotton	-	-	-	243,000
TOTAL		-	-	457,310

50. Though this quantity would be but a small mite in the enormous home consumption, still, as I have above shown, it is the identical article wanted in England. Unlike other descriptions of Indian cotton it requires no alteration or adaptation of the spinning mills for its use, and in no other region (out of America), that I am aware of, have the attempts at its cultivation met with the success even already attained in Dharwar, and its contiguous districts.

51. With the experiences now being realised at home, the question of providing the further measures required for the protection and encouragement of even this extent of cultivation is one well worth the consideration of those most deeply concerned. Government can do little more in the matter; the field is now ready for private enterprise. The intervention of European agency between the grower and the consumer, to take the place of the present native dealers, is what is required; and by the opening of next season, facilities will be afforded for the introduction of these agencies, such as have not hitherto existed.

52. Good communications to the seaboard, with the means of direct shipment thence, will remove the necessity that existed for all the changing of hands that has hitherto been found necessary between this and Bombay.

53. It must, however, be admitted that so long as the sowcars and native dealers are unrestricted in the nefarious practice of adulteration, which I have above exposed, the European must enter the field at a great disadvantage, in so far as that they would be able to outbid and undersell him to the extent of the difference of price between the rubbish they use for admixture and good New Orleans cotton.

54. Those parties would also doubtless make a strenuous effort to preserve their present monopoly; and whilst the competition lasted, they would be in a condition, without incurring loss to themselves (merely by foregoing their profits), to raise the price of the American cotton to a rate with which the European could not compete.

55. The prevention or suppression of this fraud becomes therefore one of the most essential measures for the welfare of the cotton interests of these parts. Clause 2 of a Bill read before the Legislative Council of India, on the 10th January 1868, for the better

III. Bombay.

suppression of frauds in the cotton trade of the Bombay Presidency, makes the fraudulent mixing of good and bad cotton in the same bale a penal offence. This appears to me to apply exactly to the case under notice, which can bear no other interpretation than a wilful admixture of an inferior with a superior article with fraudulent intent.

56. In bringing this matter so prominently to the notice of Government, I beg to point out that it is a purely local evil, which does not exist elsewhere, as there is no cultivation of exotic cotton in any other part of India to lead to it; it therefore becomes a question for the consideration of the local legislature.

57. The parties by whom this fraud is perpetrated are quite aware of the illegality of their proceedings, and have nothing to say in defence, except that they do not think it can be of much importance, as no notice is taken of it.

58. The cultivator is in no way concerned, and any measures taken for its suppression would be a matter of indifference to him. If, therefore, the local Government is pleased to view the evil in the light in which I have represented it, and to bring forward a legislative enactment declaring such admixture of these two varieties of cotton to be illegal in terms of clause 2 of the said Bill of the Legislative Council, I believe that a proclamation to that effect, distributed amongst the dealers, would of itself suffice, in a great measure, to put a stop to the practice.

59. At all events it would rarely, if ever, be necessary to resort to any of the severe penalties of fine, imprisonment, &c. provided for by the above-mentioned Bill. A temporary suspension of the cleaning operations of the establishment would be a more suitable punishment, and would, I believe, prove quite sufficient.

60. The difference between the seeds of the American and native cotton is so marked that there is no difficulty whatever in discovering their admixture in the saw-gins; the detection of this offence would therefore, with very little trouble, become almost unavoidable.

61. Before concluding it may not be out of place to notice the prospects of the native cotton of this country in connexion with the new cleaning machinery, upon the roller or churka principle, which has just been constructed for its use, and which, I trust, will serve to obtain higher favour for this produce than it has hitherto met with in the home market.

62. During the last 25 years the Government of India has fully appreciated the necessity of obtaining some more expeditious method of cleaning indigenous cotton than by the slow and expensive process of the native churka, and at various successive periods every temptation and inducement that could be offered was held out in order to attain the desired end.

63. The Supreme Government at Calcutta challenged invention by offering prizes in money of large amount sufficient to induce the best mechanical skill of the country to enter the lists, and at the appointed trials many and varied inventions and modifications were brought forward, but the result proved that the task had baffled the skill of the competitors, and that the "time honoured" churka continued to hold its sway in triumph.

64. One or two points essential to success had been overlooked in all these machines, and though some of them in short trials appeared to give promise of success and obtained prizes, still, when brought into practical use, it was found that they could not surpass the "churka" even in the single requirement of quantity of out-turn of work, and ultimately all hopes of obtaining such a machine seemed to have been abandoned.

65. For some years back I have paid very considerable attention to this subject, and after careful practical study succeeded in producing a machine entirely free from the above defects, and on proceeding to England I took with me working models of these machines and also supplies of seed cotton. I was thus enabled personally to lay these models before some of the first machinists of the country, and to explain where the former difficulties lay, and the exact nature of the article now required.

66. Various parties have been engaged, each introducing his own modification with regard to the application of power, &c., but the practical result is the production of machinery which, with the estimated labour of one man, gives an out-turn of upwards of 100 pounds of cotton-wool per day, with the additional advantage of allowing no seed to pass through.

67. At the very highest estimate the quantity of cotton cleaned by the best worked native churka does not exceed 20 pounds per man per day of 12 hours. With such a great advantage in economy, not to mention expedition also, as well as the yearly increasing scarcity and cost of labour, owing to the amount taken up by railways and other public works, the benefit of such machinery, when it becomes generally known, will be appreciated, and the cleaning of native cotton by its use will in all probability become a separate occupation in itself.

68. That it will prove sufficiently profitable to engage the attention of enterprising parties may be inferred from a statement made by Mr. Landon of Broach, who ought to be

be well informed, as he had practical experience to guide him. In a letter to the Secretary to Government, dated Broach, 12th January 1858, Mr. Landon writes:—"As an instance of the superior economy of the saw-gin as compared with the Gujarat churka (which is the most effective native machine in India), I may mention that if the whole of the native cotton shipped from Broach were to be cleaned by the former instead of the latter, a saving would be effected under this head alone of more than 3,00,000 rupees (three lakhs) per annum."

69. The saw-gin destroyed native cotton, and its value was lowered in the market; nevertheless labour was scarce, and the Broach saw-gins driven by steam found ample employment. I was at that place in the cleaning season of 1859, and I saw the carts laden with seed-cotton crowding to the gins, and their owners striving for precedence. The exports from Broach at the time at which the above estimate of profits was taken amounted, I believe, to about 45,000 bales per annum.

70. That portion of the province of Berar which is now being penetrated by the railway, yields three times the above amount of cotton, and manual labour is still more scanty. The produce, as it is picked from the field, is piled up in one large heap in the open air, where it remains sometimes for months until labour can be obtained.

71. When first stored in this way, from a short distance it resembles a heap of snow in whiteness; dust storms, however, set in, and the heap becomes gradually covered with fine sand and earth, until at length one can no longer distinguish what the contents may be. A few showers of rain generally succeed those dust storms, and the amalgamation of mud and cotton is completed.

72. I may here observe that although the cultivation of native cotton is capable of extension to an enormous degree, yet the amount of manual labour available is barely sufficient to clean the quantity now produced. Any large extension without the aid of cleaning machinery therefore cannot be expected, and this remark is the more applicable when it is considered that the chief increase in cotton cultivation must be looked for in new districts, such as those of Central India, where population is thin and scarcely sufficient to till the land. In a well-populated district like Dharwar, after cultivation and picking have been disposed of, the available manual labour is wholly insufficient to clean the produce by the ordinary method; and though cotton has always been a paying crop, it was not until cleaning machinery was introduced that cultivation largely increased.

73. Under the disadvantages that I have named, and others that might be added, with which Indian cotton has to contend, it may be truly stated that, with respect to quality alone, the consumers at home are as yet ignorant of the extent to which India is capable of meeting their wants. Its produce has not been appreciated because it has rarely reached them in fair condition or unadulterated.

74. Before the present scarcity, when American cotton was procurable, Indian cotton was scarcely looked at save for re-exportation; and this latter crisis will only tend to complete the ruin of its name and character, for it is notorious that the high prices ruling have led to admixture and adulteration which have quite eclipsed all former experience.

75. Anything resembling cotton which could be packed into a bale readily passed muster. I have been told upon reliable authority that the "sweepings" of the gin-house (formerly cast away) have been sold in Bombay at 130 rupees per candy.* It is probable, therefore, that at no former period has the cotton produce of India been sent to England in a condition so unfavourable to its real character.

76. A very different tale might be told if the crop, from the field to the final pressing, received the same care that is bestowed upon it in America; but this need never be hoped for so long as the whole trade of the interior is left to native dealers.

77. When recently at home, I was told by spinners who had been in the habit of using native Indian cotton, that there was cotton in India which would suit their purpose perfectly, but that they could not depend upon uniformity of quality even in the contents of a single bale. This fact is the secret of the bad repute of Indian cotton, and it points at once to the only remedy (one which has been often enough urged by all men who have had practical experience to guide them), viz., the establishment in the interior, by private enterprise, of European agency, capable of competing with the native dealers, in whose hands this entire trade is at present suffered to remain.

78. There are two objects to be attained which have hitherto been totally neglected—first, securing to the ryot the certainty that any improvement he can effect in the quality of his produce by the exercise of a little more care and trouble in cultivation and picking will bring him his reward; secondly, to provide the means of protecting the produce from adulteration until it has been finally pressed for export.

79. That these should be the work of private enterprise no one will dispute, and until it be attended to all the aid that is so loudly called for from Government may be granted tenfold; the country may be interlaced with roads, railways, and canals, but the prospects

* This was a month or two back, when prices of good cotton did not exceed 300 rupees per candy.

III. Bombay.

pects of its cotton trade, in so far as the requirements for home consumption are concerned, will be in no way improved.

80. I have reason to know that the correctness of these remarks is no longer doubted by parties at home who have given the subject fair and unprejudiced consideration, and who are not unwilling to provide the means for establishing the agencies required; but they are deterred from commencing operations, under an impression that India is not yet prepared for such enterprise.

81. It is right, however, to state that such is not now the case; the impediments which formerly existed are rapidly being cleared away, and even within the last 12 months facilities have been opened out which afford ample room for immediate action.

82. The province of Broach (one of the finest cotton districts in this presidency) has rail and water communication with the shipping in Bombay harbour. Sholapoor is opened out, and has its railway carrying cotton to the same port. So likewise with Berar, where in a short time the only interruption will be about 11 miles on the Thull Ghaut, which, with the railway arrangements, will give very little trouble; and the Southern Maratha country and Dharwar districts have new facilities such as they never enjoyed before; these alone are more than sufficient to encourage an immediate commencement.

83. At paragraph 40 I have stated that the number of gins now applied for amounts to 591, over 200 of which have been ordered within the last month. I should now mention the means available as well as the measures which have been adopted to meet this demand. On the 11th ultimo I applied for the sanction of Government to enable me to procure from England a supply of iron-castings for 300 gins, and I received a reply granting the required sanction, from which I have been able to send the necessary orders home by the mail which left Bombay on the 27th instant. I have also forwarded, on the 29th instant, a second application for permission to obtain a further supply of 300. These, when received, will suffice for the parties who have already applied.

84. To meet the further demand which may be anticipated, there is a supply of material now arrived in Bombay (independent of that which has been lost by the wreck of the "James Pilkington") which when received, with the aid of other resources, will enable the Factory to have upwards of 100 gins ready for distribution in time for next year's crop.

85. I may here mention that though the Home Government advances the money required for the necessary materials, the State is in no way a loser by these transactions. The articles obtained from England embrace only such portions of the machine as are best made in cast-iron; the remainder, along with the furnishing and fitting up, is completed at the Factory, where the charges for work done are so framed as to cover every possible expenditure, including superintendence.

86. On referring to the returns I find that, during the six years ending 6th June last, the receipts realized have fallen short of the expenditure by a sum of 1,280 rupees, making 213 rupees per annum, or 17½ rupees per month, the sum which for that period has been the sole cost to Government of the Dharwar cotton establishments, and even this deficiency is due to partial suspension of gin-making, pending the receipt of iron materials from home. The sale of the extensive supplies now in the country or ordered will more than cover this deficiency.

87. Before closing this report, which mainly relates to the extension of New Orleans cotton, it may be as well to give an approximate estimate of the quantity of native cotton which may be reasonably looked for from the cotton fields of the Southern Maratha Country and adjacent districts, for which Sudasewghur forms the natural outlet. In this I include all the cotton land situated within about 200 miles of that port.

88. We have pretty accurate data of the area under cotton in our own territories and Bellary, and can at any rate form an estimate of the area within the above distance in the adjacent territory of Raichore and Mysore. After making a deduction from the

* Dharwar and Jagheers -	-	Acres	80,000
Belgaum and Jagheers -	-	-	250,000
Bellary -	-	-	200,000
Sholapoor and southern district -	-	-	100,000
			680,000
Raichore -	-	-	175,000
Mysore -	-	-	175,000
			350,000
GRAND TOTAL -	-	Acres	980,000

present extent under cotton for the supply of the quantity of American cotton mentioned at paragraph 49, there will remain in Dharwar, Belgaum, Bellary, and the southern districts of Sholapoor on the Kistna, 630,000 acres* for native cotton. I am certainly rather under than over the mark in putting the present cotton cultivation of Raichore and Mysore at 350,000 acres more, making a total of 980,000 acres, which, at the moderate estimate of seven acres to the bale, will give 140,000 bales of native cotton, which, with the amount of New Orleans cotton estimated at paragraph 49, gives a total of close upon 300,000 bales as the cotton available for export from Sudasewghur. The facilities afforded for export, and an increased supply of cleaning machinery, will doubtless add very considerably to this amount.

I have, &c.

Dharwar Cotton Gin Factory,
30 August 1862.

G. F. Forbes,
Superintendent, Cotton Gin Factory.

ACRES Cultivated with New Orleans Cotton in the Dharwar Collectorate and included Jagheers, and Number of Saw Gins supplied from the Factory since 1848-49.

Y E A R S.	Dharwar Collectorate.	Jagheers.	TOTAL.	Number of Saw Gins supplied from the Factory.
	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>	
1848-49	3,238	-	3,238	No date, but 76 Gins were in the districts in all in the latter year.
1849-50	15,573	-	15,573	
1850-51	31,669	-	31,669	
1851-52	42,648	707	43,355	74
1852-53	28,011	8,790	36,801	48
1853-54	41,403	9,859	51,262	27
1854-55	63,299	18,280	81,579	77
1855-56	50,803	15,711	66,514	29
1856-57	82,352	25,855	108,207	50
1857-58	97,307	33,573	130,880	123
1858-59	101,750	23,001	124,752	130
1859-60	152,000	39,281	191,281	101
1860-61	148,741	42,285	191,026	56
1861-62	171,946	42,364	214,310	55
				42

Note.—The acres of part of the Jagheers for 1861-62 were not procurable, therefore the area of the preceding year is adopted.

G. F. Forbes,
Superintendent, Cotton Gin Factory.

HALF-YEARLY REPORT of the COTTON GIN FACTORY, DHARWAR, for the Term ending 31st May last:—

THE following is a Summary of the Amount and Value of Work done by the Factory during the above period.

	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>
Value of 2 driving-wheels for 18-saw gins, including driving-straps	110 - -	
Value of 46 driving-wheels for 18-saw gins, without driving-straps	2,346 - -	
Value of 23 driving-straps for 10-saw gins	74 12 -	
Value of 9 pairs of hopper boards	22 8 -	
Value of 5 flues	35 - -	
Value of repairs effected on old gins	623 4 6	
Value of bearings, boxes, and other parts of gins supplied to the branch factories	297 4 5	
Value of work done on cast-iron gins of 18 and 10 saws, which consisted in completing them, and in repairing breakages they suffered in the transit, the amount thus expended being put on to the price of the gins	662 1 9	
Cost of experiments in cotton-cleaning machines	97 13 4	
Value of repairs and improvements in a model pile engine formerly constructed at the factory	19 - 7	
Value of repairs effected on carts carting timber and charcoal for the factory	29 13 1	
Value of repairs effected in tools belonging to the factory	2 13 6	
Value of work done in adjusting a circular saw for sawing wood	9 10 10	
Value of tools and implements made for the use of the factory	21 4 -	
		4,351 6 -
Deduct—		
Value of materials consumed	1,973 11 4	
Cost of labour	2,062 10 2	
		4,036 5 6
Balance in favour of the Factory	<i>Rs.</i>	315 - 6

III.
Bombay.

2. During the half-year under notice 47 gins were sold, viz. 3 of 18 saws, and 44 of 10 saws.

3. The number of orders for gins on the register up to this date amounts to 506.

4. The branch factories were actively at work during the whole of the above period, as in many instances, in order to complete contracts, gins were worked day and night.

5. The following statement exhibits the amount of work done at each of the branch factories during the period in question:—

Work done at the Kurujghy Branch Factory.			Work done at the Guduk Branch Factory.		
		Number.			Number.
Gins of 20 saws, repaired	-	5	Gins of 24 saws, repaired	-	1
Gins of 18 " "	-	16	Gins of 21 " "	-	1
Gins of 14 " "	-	1	Gins of 20 " "	-	2
Gins of 10 " "	-	33	Gins of 18 " "	-	12
Gins of 8 " "	-	7	Gins of 10 " "	-	3
Total	-	62	Total	-	19

6. The above statement refers only to extensive repairs which required the gins to be conveyed to the branch factories, but does not include work of a lighter description, attended to by the itinerant parties in their periodical rounds.

7. The state of the funds of the branch factories, especially of that of Kurujghy, has been satisfactory. The account of receipts and disbursements of each of the branch factories, with reference to the half-year under report, may be exhibited as follows:—

Kurujghy Branch Factory.

	Rs.	a.	p.
Balance at the commencement of the half-year, viz., 1st December 1861	2,413	2	2
Receipts during the half-year	2,672	2	-
Deduct—	5,085	4	2
Amount of disbursements during the half-year	1,605	8	11
Balance at the end of the half-year	3,479	11	3

Guduk Branch Factory.

	Rs.	a.	p.
Balance at the commencement of the half-year, viz., 1st December 1861	748	1	5
Receipts during the half-year	255	-	-
Deduct—	1,003	1	5
Amount of disbursements during the half-year	358	12	9
Balance at the end of the half-year	644	4	8

C. Courpalais,

Mechanical Supt. in charge Cotton Gin Factory.

Dharwar Cotton Gin Factory,
18 August 1862.

STATEMENT, No. 1.

COTTON PLANTER'S REPORT from 1st December 1861 to 31st May 1862, in the Dharwar Collectorate.

Talooks.	Prospect of the Season, and state of the Crop as regards each sort of Cotton, showing also what Stations were visited by the Superintendent.	EXTENT IN ACRES.								GINS.		
		New Orleans.		Broach.		Total Foreign.		Country Cotton.		For Sale in the Factory.	In Use.	
		Extent in Acres.	Estimated Produce in Candy of 784 lbs.	Extent in Acres.	Estimated Produce in Candy of 784 lbs.	Extent in Acres.	Estimated Produce in Candy of 784 lbs.	Extent in Acres.	Estimated Produce in Candy of 784 lbs.	Belonging to Government.	Belonging to Private Individuals.	
										Number and Size of Gins.	Number and Size of Gins.	Talooks.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
										3 Gins of 20 saws each. 2 do. of 10 - ditto, of cast iron. 2 Gins of 10 saws each, wooden. 2 Gins of 4 saws each. 1 Cotton thrasher. 1 Egyptian churka. 2 Roller gins. 2 Macarthy gins. 15	6 Gins of 40 saws each. 2 do. of 25 - ditto. 1 do. of 24 - ditto. 13 do. of 20 - ditto. 1 do. of 19 - ditto. 282 do. of 18 - ditto. 48 do. of 18 - ditto, of cast iron. 1 Gin of 15 saws each. 8 do. of 14 - ditto. 3 do. of 13 - ditto. 230 do. of 10 - ditto. 47 do. of 10 - ditto, of cast iron. 87 Gins of 8 saws each. 144 do. of 7 - ditto. 873	Unable to state, as the Gins are constantly removed about from one talooka to another, and often into the adjacent Madras districts and Eoan villages, according to the requirements of the owners.

GINS.										Profit or Loss to Government, deducting the Cost of European Superintenden- ce.	Total net Expenses on Account of Experiment from the Commencement to the Close of the Half-year preceding that under Report.	Total Expenses for the Half-year under Report.
Out of use.		Completed in the present Half-year.		Being Made.			Sold for Government during the Half-year under Report.					
Belonging to Private Individuals.		Belonging to Government.		For Government.	For Private Individuals.		Number and Size of Gins.	At what Cost.				
Number and Size of Gins.	Talooks.	Number and Size of Gins.	Value.	Number and Size of Machines.	No.	Size of Gins.	21.	22.	23.	24.	25.	
None I am aware of.	None I am aware of.	None.	None.	1 Cotton-cleaning machine. 26 Roller churkas. 1 Gin frame for 10-saw gins. 3 Driving wheels and wheel frames for 10 saw gins.	None.	None.	3 Gins of 18 saws each, of cast iron 44 Gins of 10 saws each, of cast iron	Rs. 750 6,600 7,350	Net Profit during the Six Months under re- port is—Rs. 315. --, 6., as shown in the accompanying Abstract Statement of Cost and Returns.	Rs. a. p. 6,67,102 - 7 2,37,509 - 10 Balance - 4,29,592 15 9	Rs. a. p. 5,016 5 4 4,343 4 6 Balance - 673 - 10	
										Total expenses	Total receipts	Total receipts

STATEMENT, No. 2.

ACCOUNT OF RECEIPTS AND EXPENDITURE OF THE COTTON EXPERIMENTS, Dharwar Collectorate, from the Commencement up to 31st May 1862.

Amount of Receipts from the commencement up to the Half-year preceding that under report				Rs. a. p.		Rs. a. p.	
For the Half-year under Report, from 1st December 1861 to 31st May 1862:				2,37,509 - 10		6,67,102 - 7	
Proceeds of the repairs of saw gins:—							
December 1861	-	-	-	Rs. a. p.	Rs. a. p.	Rs. a. p.	
January 1862	-	-	-	212 8 7	126 2 4	1,200 - -	
February "	-	-	-	238 1 8			
March "	-	-	-	140 7 8		788 11 9	
April "	-	-	-	150 5 1			
May "	-	-	-	302 10 -		19 8 -	2,006 3 9
Advances for gins to be disposed of:—							
December 1861	-	-	-	470 - -			
January 1862	-	-	-	270 - -			
February "	-	-	-	80 - -			
March "	-	-	-	300 - -		469 7 9	
April "	-	-	-	760 - -		892 8 8	
May "	-	-	-	970 - -		615 - 8	
Value of four model carts, at 55 rupees each				220 - -		478 9 10	
Proceeds of the sale of sundry articles, &c.				103 1 2		608 13 5	
				323 1 2		445 9 3	3,010 1 7
				4,343 4 6		5,016 5 4	
Balance against the Experiment				2,41,862 5 4		6,72,118 5 11	
				4,30,266 - 7		Rs.	
				6,72,118 5 11		Rs.	

Dharwar Cotton Gin Factory,
18 August 1862.

C. Courpalais,
Mechanical Superintendent in charge, Cotton Gin Factory.

STATEMENT, No. 3.

DETAILED MEMORANDUM of Sums collected during each of the Six Months embraced in the COTTON PLANTER'S REPORT for the Half-year commencing 1st December 1861, and ending 31st May 1862, for Gins Sold, and Value of Repairs to Gins, during that period; also for Repairs to Gins, and Gins Sold, during the present Half-year.

MONTHS.	Sums Collected during the present Half-year for Gins sold prior to 1 December 1861.	Sums Collected for Gins Sold during the Half-year under Report.	Sums Collected during the present Half-year for Repairs made prior to 1 December 1861.	Sums Collected for Gins Repaired during the Half-year under Report.	TOTAL.
	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>	<i>Rs. a. p.</i>
December 1861 - -	- - -	- - -	208 8 7	4 - -	212 8 7
January 1862 - -	- - -	- - -	125 2 4	1 - -	126 2 4
February „ - -	- - -	- - -	189 1 8	49 - -	238 1 8
March „ - -	- - -	- - -	11 12 11	128 10 9	140 7 8
April „ - -	- - -	- - -	50 11 2	99 9 11	150 5 1
May „ - -	- - -	- - -	- - -	302 10 -	302 10 -
TOTAL - - - <i>Rs.</i>	- - -	- - -	585 4 8	584 14 8	1,170 3 4

REMARKS.	<i>Rs. a. p.</i>
Amount collected, in the six months under report, for repair of saw-gins	1,170 3 4
Advances received for gins to be disposed of - - - -	2,850 - -
Value of four model carts - - - -	220 - -
Sale proceeds of sundry articles, &c. - - - -	103 1 2
<i>Rs.</i>	4,343 4 6

C. Courpalais,
Mechanical Superintendpt in charge Cotton Gin Factory.

Dharwar, Cotton Gin Factory,
18 August 1862.

STATEMENT, No. 4.

C7. ABSTRACT STATEMENT showing the Cost and Return of the COTTON GIN FACTORY, Dharwar, from 1st December 1861 to 31st May 1862.

Dr.

	Rs. a. p.	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
By Value of two driving-wheels for 18-saw gins, with strap, at 55 rupees each - - - - -	110 - -			To Cost of Establishment:		
" Value of 46 driving-wheels for 18-saw gins, without strap, at 51 rupees each - - - - -	2,346 - -			Salary of the fixed establishment, exclusive of the allowance to the mechanical superintendent in charge of cotton gin factory - - - - -	770 2 11	
" Value of 23 hide straps for driving-wheels of 10-saw gins, at Rs. 3. 4. each - - - - -	74 12 -			Batta to fixed establishment, exclusive of the batta to the mechanical superintendent in charge of cotton gin factory - - - - -	15 5 -	
				Wages to the contingent establishment - - - - -	1,277 2 3	
" Value of articles prepared for cast-iron gins ordered from England, viz.:—				To Cost of Materials:		2,062 10 2
9 Hopper boards, at Rs. 2. 8. each - - - - -	22 8 -			Mds. lbs. oz.		
5 Flues, at 7 rupees each - - - - -	35 - -			52 14 12 of round iron of sizes, at 2 8 and above per maund of 28 lbs., ditto - - - ditto - - -	131 7 4	
" Value of repairs to saw-gins, &c., - - - - -		57 8 -		79 17 4 of square iron ditto - 2 8 ditto - - - ditto - - -	199 13 5	
" Value of articles, bearings, bolts, &c. prepared for the branch factories - - - - -		623 4 6		82 23 0 of flat iron - ditto - 4 - ditto - - - ditto - - -	316 8 2	
" Value of work done in cast-iron gins of 18 and 10 saws received from England, in adding wooden frames, adjusting them, and in repairing breakages they suffered in the transit - - -				11 26 10 of sheet iron - ditto - 3 10 ditto - - - ditto - - -	43 4 11	
" Cost of experiments on cotton-cleaning machines - - - - -				2 11 1 1/2 of steel from old file, at 3 8 ditto - - - ditto - - -	8 6 -	
" Cost of repairs and improvements effected on a model pile-engine - - - - -				4 16 2 3/4 of old brass - - - at 14 - ditto - - - ditto - - -	64 1 3	
" Cost of repairing carts, carting timber and charcoal - - -				24 11 10 of zinc - - - at 3 6 ditto - - - ditto - - -	79 2 4	
" Cost of repairing tools in the factory - - - - -				10 16 7 iron from broken swords - 11 ditto - - - ditto - - -	6 40 8	
" Cost of adjusting a circular saw for sawing wood - - - - -				21 gross 5 dozen 7 screws of sizes at various rates - - -	30 11 -	
" Cost of tools and implements made for the use of the factory, viz.:—				8 He-buffalo skins, at Rs. 2 8 each - - -	20 - -	
9 chisels, carpenter's - - - - -	3 8 -			8 She-buffalo ditto at " 2 - ditto - - -	16 - -	
16 chisels, smith's, cold - - - - -	4 4 -			2 Bullock - ditto at " 1 12 ditto - - -	3 8 -	
12 bits for braces, carpenter - - - - -	2 4 -			114 Circular saws of 10 inch, at different rates - - -	204 - -	
1 screw-driver - - - - -	8 - -			255 1/2 puras of charcoal, at 8 puras per rupee - - -	31 14 6	
2 hammers, hand - - - - -	1 8 -			2 lbs. 6 oz. of bristles, at Rs. 3. 12. per lb. - - -	8 14 6	
1 wrench - - - - -	1 8 -			1 lb. 15 1/2 oz. of brass wire, at 1 rupee per lb. - - -	1 15 6	
1 die for screw-plate - - - - -	1 8 -			58 Honny logs, measuring 9 1/4 cubic feet 7 1/4 inches, at 5 rupees and under, per foot - - -	285 14 5	
1 mould for casting round bearings - - - - -	12 - -			19 Medley logs - ditto - 337 " 4 1/2 " at 8 " - ditto - - -	168 8 5	
2 iron cups for melting zinc - - - - -	3 8 -			7 Teak logs - ditto - 112 " 5 1/2 " at 14 " - ditto - - -	108 - 1	
	2 8 -			48 Babool blocks, for wheel naves - - - - -	20 10 -	
				Wear-and-tear on 85 files, weighing 80 lbs. 9 1/2 oz., at 12 annas and under per lb. - - -	60 6 9	
				3 Unserviceable saws, used for small springs for bearings - - -	- 6 -	
				Deduct value of waste wood, &c., sold - - - - -	1,810 3 3	
				To Cost of sundry Expenses:—	44 - -	1,766 3 3
				December 1861 - - - - -		
				January 1862 - - - - -	33 12 8	
				February " - - - - -	39 13 7	
				March " - - - - -	46 15 -	
				April " - - - - -	22 10 5	
				May " - - - - -	31 14 3	
					32 6 2	
						207 8 1
				To Profit in the half-year - - - - -		4,036 5 6
						315 - 6
						4,351 - -

Dharwar, Cotton Gin Factory
18 August 1862.C. Charrpalai,
Mechanical Superintendent in charge Cotton Gin Factory.

STATEMENT, No. 5.

DETAILED MEMORANDUM of the Number, Size and Value of GINS made and sold during the Half-year ending the 31st May 1862, and the Balance of Cotton Machines in Store.

	MACHINES.																			
	Gins of 20 Saws.		Cast-iron Gins of 18 Saws.			Cast-iron Gins of 10 Saws.			Gins of 10 Saws, wooden.		Gins of 4 Saws.		Cotton Thrasher.		Egyptian Churka.		Roller Gins.		Macarthy Gins.	
	Number.	Value.	Number.	Value.	Value Recovered.	Number.	Value.	Value Recovered.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Number which were on hand at the close of the last half-year	3	Rs. -	3	Rs. -	Rs. -	46	Rs. -	Rs. -	2	Rs. -	2	Rs. -	1	Rs. -	1	Rs. -	2	Rs. -	2	Rs. -
Number completed during the present half-year	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	3	-	3	-	-	46	-	-	2	-	2	-	1	-	1	-	2	-	2	-
Deduct:																				
Number sold during the half-year under report	-	-	3	750	-	44	6,600	-	-	-	-	-	-	-	-	-	-	-	-	-
Balance of cotton machines on hand, except those being made	3	-	-	-	-	2	-	-	2	-	2	-	1	-	1	-	2	-	2	-

Dharwar, Cotton Gin Factory,
18 August 1862.

C. Courpalais,
Mechanical Supt. in charge Cotton Gin Factory.

STATEMENT, No. 6.

STATEMENT of GINS sold during the Half-year ending 31st May 1862.

MONTHS.		DESCRIPTION OF GINS.				TOTAL.		REMARKS.
		Cast-iron Gins of 18 Saws each.		Cast-iron Gins of 10 Saws each.				
		Number.	Amount.	Number.	Amount.	Number.	Amount.	
			Rs. a. p.		Rs. a. p.		Rs. a. p.	
December 1861	- - - -	-	- - -	5	750 - -	5	750 - -	
January 1862	- - - -	-	- - -	7	1,050 - -	7	1,050 - -	
February "	- - - -	1	250 - -	6	900 - -	7	1,150 - -	
March "	- - - -	-	- - -	6	900 - -	6	900 - -	
April "	- - - -	1	250 - -	10	1,500 - -	11	1,750 - -	
May "	- - - -	1	250 - -	10	1,500 - -	11	1,750 - -	
TOTAL - - -		3	750 - -	44	6,600 - -	47	7,350 - -	

Dharwar, Cotton Gin Factory,
18 August 1862.

C. Courpalais,
Mechanical Supt. in charge Cotton Gin Factory.

STATEMENT, No. 7.

STATEMENT showing the Number of CARTS made and sold under the authority of the Government Resolution, No. 4597, dated 8th August 1853, received with the Revenue Commissioner Southern Division's Memorandum, No. 2125, dated 11th August 1853, during the Half-year ending the 31st May 1862.

Number of Carts authorised to be constructed by Government Resolution, No. 4597, dated 8 August 1853.	Number of them Constructed up to the Half-year ending 30 November 1861.		Number Sold up to the Half-year ending 30 November 1861.		Number of Carts Constructed during the Half-year under report.		Number of Carts Sold during the Half-year under report.		Balance remaining on hand at the close of the Half-year under report.		Number of Carts being made at the close of the Half-year under report.		REMARKS.
	No.	At what Cost.	No.	At what Price.	No.	At what Cost.	No.	At what Price.	No.	Value.	No.	Cost.	
50	20	Rs. 1,257 4 6	27	Rs. 1,022 6 -	-	Rs. - - -	2	Rs. 110 - -	-	Rs. - - -	-	Rs. - - -	

Dharwar, Cotton Gin Factory,
18 August 1862.

C. Courpalais,
Mechanical Supt. in charge Cotton Gin Factory.

STATEMENT, No. 8.

MEMORANDUM showing the Names of the Purchasers of Carts sold, and the District to which they pertain, called for in the Revenue Commissioner Southern Division's letter, No. 2819, of 7th September 1866, paragraph 2.

Number of Carts sold.	Names of the Purchasers of Carts, and the District to which they pertain.
1	Luxumun Kullapa, of Dharwar.
1	Chenabussapa Puckeerapa, of Dharwar.
2	

Dharwar, Cotton Gin Factory,
18th August 1862.

C. Courpalais,
Mechanical Supt. in charge Cotton Gin Factory.

— No. 66. —

RETURN showing the EXTENT of LAND in the Kolahpoor Territory, cultivated with, and its Produce in Indigenous and Exotic Cotton.

Season.	District.	Land Cultivated.			Uncleaned Cotton Produced.			Yield of Cleaned Cotton.			Local Consump- tion.	Exported.
		Native.	Exotic.	TOTAL.	Native.	Exotic.	TOTAL.	Native.	Exotic.	TOTAL.		
		Acrea. Goonlas.	Acrea. Goonlas.	Acrea. Goonlas.	Candies. Lbs.	Candies. Lbs.	Candies. Lbs.	Candies. Lbs.	Candies. Lbs.	Candies. Lbs.		
1861-62	Kolahpoor Territory.	7,413 15	- -	7,413 15	1,110 645	- -	1,110 645	278 350	- -	278 350	8ths of the produce.	8th of the produce.
1860-61		7,704 27	- -	7,704 27	1,037 7	- -	1,037 7	259 237	- -	259 237		

Rate of Assessment per Acre.	Cost of Cultivation per Acre.	MODE AND COST OF CLEANING.			Average Prices of Cleaned Cotton per Candy of 784 lbs.	Expense of Transit to Bombay.	Extent of Land capable of producing Cotton, in Acres.
The land cultivated with cotton is assessed at from 4 to 19 rupees per acre.	The cost of cultivating one acre of land with cotton, is estimated to be from 11 to 12 rupees.	The cotton cleaner, generally a woman, sits on a low stool, with a smooth flat stone on the ground before her; upon this stone a rather thin iron-roller is placed. The roller projects beyond the stone on either side, and on the projecting portions, two wooden soles (as of shoes), are placed. The feet of the cleaner are placed upon these soles, and rapidly pushed backwards and forwards simultaneously, which communicates a rotary motion to the iron roller. The cleaner, assuming a stooping posture, feeds the roller from the front with the cotton which is, by the action of the roller, drawn under it towards the cleaner, while the seeds are separated, and ejected by the roller in front. This mode of cleaning is called "wutna." A woman cleans about 10 lbs. per day. The cotton goes through another cleaning in being whipped by a bow-string upon an instrument called "kuman." By this mode, about 40 lbs. may be cleaned by one person in a day. The cost of cleaning cotton is Rs. 12. 4. per candy, or 784 lbs., or 3 pies per one lb.			Cleaned cotton is sold at 3½ pukka seers, or 7½ lb. per one rupee, which gives a total value of one candy at Rs. 108. 2. 2. This price is quoted for 5th June 1862; it has since risen considerably.	The cost of exporting one candy of cotton to Bombay via Rajapoor, is 10 rupees, or via Poona, about 18 rupees.	The total extent of land capable of producing cotton, is 9,605 acres.

— No. 67. —

From *L. R. Ashburner*, Esq., Collector of Khandesh, to *B. H. Ellis*, Esq.,
Revenue Commissioner, Northern Division, Poonah.

Sir,

1 June 1862.

I HAVE the honour to forward the half-yearly Report of the Government saw-gin factory at Dhurrungaum. The working expenses of the factory during the half-year have been *Rs. 735. 1.*, and the receipts *Rs. 394. 0. 6.*, showing a loss of *Rs. 341. 0. 6.*

2. It has been brought to my notice that the cotton merchants who have bought gins do not work them because they can get their cotton cleaned at the Government factory at a cheaper rate than they could keep their own gins at work. The charge for the use of a Government gin is only five rupees per mensem, all repairs and expenses being paid by Government. It was probably never intended that the merchants should make a convenience of the Government factory in this way. I would, therefore, suggest that the use of the Government gins should be put up to public auction, and that the purchaser be required to pay all repairs and working expenses. The factory should be made to pay its expenses, or it should be closed if the saw-gins cannot pay their expenses; they are never likely to become popular.

I have, &c.,
L. R. Ashburner, Collector.

No. 3752.—Revenue Department.

SAW GINS.

Bombay Castle, 10 October 1862.

MEMORANDUM from the Revenue Commissioner, Northern Division, No. 2396, dated 27th September 1862, submits a letter from the Collector of Khandesh, forwarding a report of the Government Gin Factory at Dhurrungaum for the half-year ending 31st May 1862, and recommends for sanction, experimentally for a year, the collector's suggestion to put up to auction the use of the Government gins; the purchaser being required to pay for all repairs and working expenses.

RESOLUTION.

THE collector to be authorised to sell the use of the Government gins by auction, as an experiment to be tried for one year.

J. B. Peile,
Under Secretary to Government.

To the Revenue Commissioner, Northern
Division.

HALF-YEARLY REPORT of the GOVERNMENT FACTORY at Dhurungaum, ending 31 May 1862.

Number.	NAMES.	Stations.	Remarks on the past Season as to how far anticipations regarding the Crops and their disposal are realized.	Quantity of Cuppass on hand on account of Government of each sort ginned or not ginned.				Supposed proportion of last Year's Crop, which has been cleaned in Saw-gins, or will be cleaned.			
				New Orleans.	Broach.	TOTAL.	Country.	New Orleans.	Broach.	TOTAL.	Country.
1	2	3	4	5	6	7	8	9	10	11	12
1	Dhoolia	1	The past was a favourable season for the cultivation of Cotton and other grain, and the yield throughout the Province is said to be fair.	-	-	-	-	-	-	-	-
2	Amulnair	1		-	-	-	-	-	-	-	-
	Bettawood	-		-	-	-	-	-	-	-	-
3	Errundale	-		-	-	-	-	-	-	-	-
	Cossodah	1		-	-	-	-	-	-	-	-
	Dhurungaum	1		-	-	-	-	-	-	-	-
	Puldee	1		-	-	-	-	-	-	-	-
4	Bhurgaum	-		-	-	-	-	-	-	-	-
5	Chalisgaum	-		-	-	-	-	-	-	-	-
6	Molligaum	-		-	-	-	-	-	-	-	-
7	Baglan	-		-	-	-	-	-	-	-	-
8	Pimpulnair	-		-	-	-	-	-	-	-	-
9	Nundoorbar	-		-	-	-	-	-	-	-	-
10	Sultanpoor	-		-	-	-	-	-	-	-	-
11	Thalnair	-		-	-	-	-	-	-	-	-
12	Chopra	-		-	-	-	-	-	-	-	-
	Addawood	-		-	-	-	-	-	-	-	-
13	Yawull	-		-	-	-	-	-	-	-	-
14	Sowda	1		-	-	-	-	-	-	-	-
15	Nusseerabad	-		-	-	-	-	-	-	-	-
	Julgaum	1		-	-	-	-	-	-	-	-
16	Jamnair	-		-	-	-	-	-	-	-	-
	Parola	1		-	-	-	-	-	-	-	-
17	Khaungaum	1		-	-	-	-	-	-	-	-
	TOTAL	-	-	-	-	-	-	-	-	-	-

Number.	NAMES.	GINS.								Total Amount.
		In Use.		Out of Use.		Completed.		Sold for Government.		
		Belonging to Govern- ment.	Belonging to Private Individuals.	Belonging to Govern- ment.	Belonging to Private Individuals.	Belonging to Govern- ment.	Belonging to Private Individuals.	Belonging to Govern- ment.	Belonging to Private Individuals.	
	13	13	14	15	16	17	18	19	20	21
1	Dhoolia - - -	-	- - -	-	2	-	-	-	-	-
2	Amulnair - - -	-	- - -	-	2	-	-	-	-	-
	Bettawood - - -	-	- - -	-	-	-	-	-	-	-
3	Errundale - - -	-	- - -	-	-	-	-	-	-	-
	Cossodah - - -	-	- - -	-	-	-	-	-	-	-
	Dhurungaum - - -	10	1 cattle power machine.	51	-	-	-	-	-	-
	Puldee - - -	-	1 cattle power machine and 3 gins.	-	-	-	-	-	-	-
4	Bhurgaum - - -	-	- - -	-	-	-	-	-	-	-
5	Chalisgaum - - -	-	- - -	-	-	-	-	-	-	-
6	Molligaum - - -	-	- - -	-	-	-	-	-	-	-
7	Baglan - - -	-	- - -	-	-	-	-	-	-	-
8	Pimpulnair - - -	-	- - -	-	-	-	-	-	-	-
9	Nundoorbar - - -	-	- - -	-	-	-	-	-	-	-
10	Sultanpoor - - -	-	- - -	-	-	-	-	-	-	-
11	Thalnair - - -	-	- - -	-	-	-	-	-	-	-
12	Chopra - - -	-	- - -	-	-	-	-	-	-	-
	Addawood - - -	-	- - -	-	-	-	-	-	-	-
13	Yawull - - -	-	- - -	-	-	-	-	-	-	-
14	Sowda - - -	-	- - -	-	-	-	-	-	-	-
15	Nusseerabad - - -	-	- - -	-	-	-	-	-	-	-
	Julgaum - - -	-	- - -	-	4	-	-	-	-	-
16	Jamnair - - -	-	- - -	-	-	-	-	-	-	-
	Parola - - -	-	- - -	-	2	-	-	-	-	-
17	Khaungaum - - -	3	2 cattle power machines and 2 gins.	-	-	-	-	-	-	-
	TOTAL - - -	13	9	51	10	-	-	-	-	-

HALF-YEARLY REPORT of the GOVERNMENT FACTORY at Dhurrungaum, ending 31 May 1862—continued.

Number.	NAMES.	Other Items of Expenditure during the Half-year under Report.									Total Receipts up to the Half-year under Report.
		Purchasing and Ginning of Cotton.	Contingencies.	Buildings.	Temporary Establishments.	Amount of Superintendence.	Amount of Establishment.	Total Amount.	Amount Expended up to the last Half-year.	Total Expenditure up to the Half-year under Report.	
		22	23	24	25	26	27	28	29	30	31
1	Dhoolia - - -	-	-	-	-	-	-	-	1,770 3 4	1,770 3 4	-
2	Amulnair - - -	-	-	-	-	-	-	-	1,984 12 8	1,984 12 8	-
	Bettawood - - -	-	-	-	-	-	-	-	2,299 2 11	2,299 2 11	-
3	Errundale - - -	-	-	-	-	-	-	-	849 6 11	849 6 11	-
	Cossodah - - -	-	-	-	-	-	-	-	442 14 2	442 14 2	-
	Dhurungaum - - -	-	27 1 -	-	-	-	708 - -	735 1 -	1,38,413 13 5	1,39,148 14 5	1,19,092 4 3
	Paldee - - -	-	-	-	-	-	-	-	-	-	-
4	Bhurgau - - -	-	-	-	-	-	-	-	-	-	-
5	Chalisgaum - - -	-	-	-	-	-	-	-	-	-	-
6	Molligaum - - -	-	-	-	-	-	-	-	-	-	-
7	Baglan - - -	-	-	-	-	-	-	-	-	-	-
8	Pimpulnair - - -	-	-	-	-	-	-	-	-	-	-
9	Nundoorbar - - -	-	-	-	-	-	-	-	4,161 12 -	4,161 12 -	-
10	Sultanpoor - - -	-	-	-	-	-	-	-	212 15 3	212 15 3	-
11	Thalnair - - -	-	-	-	-	-	-	-	380 9 8	380 9 8	-
12	Chopra - - -	-	-	-	-	-	-	-	15,563 5 8	15,563 5 8	-
	Addawood - - -	-	-	-	-	-	-	-	2,491 11 11	2,491 11 11	-
13	Yawull - - -	-	-	-	-	-	-	-	4,343 7 -	4,343 7 -	-
14	Sowda - - -	-	-	-	-	-	-	-	35 8 -	35 8 -	-
15	Nusseerabad - - -	-	-	-	-	-	-	-	1,018 2 11	1,018 2 11	-
	Julgaum - - -	-	-	-	-	-	-	-	23,160 13 9	23,160 13 9	-
16	Jamnair - - -	-	-	-	-	-	-	-	2,280 15 7	2,280 15 7	-
	Parola - - -	-	-	-	-	-	-	-	-	-	-
17	Khaumgaum - - -	-	-	-	-	-	-	-	-	-	-
	TOTAL - - -	-	27 1 -	-	-	-	708 - -	735 1 -	1,99,409 11 2	2,00,144 12 2	1,19,092 4 3

REMARKS.

The following amounts have been received during the half-year under report, and paid into the Errundole Mamletdar's Treasury:

	Rs. a. p.	Rs. a. p.	Rs. a. p.
Hire of 3 saw-gins of 20 saws, to Veerasawary Soucar at Khaum, from 1st December 1861, to 15th April 1862 - - - - -	67 8 -		
Cost of materials from Government dead stock, in constructing a drum and apparatus to work 2 extra gins by a cattle-power machine - - - - -	30 4 -		
Wages of Government artificers employed in the above - - - - -	23 11 -	121 7 -	
Hire of 2 saw-gins to Bickarree Tatoo Sett, of Dhurungaum, from 15th to 30th November 1861 - - - - -	5 5 4		
Ditto of 2 ditto for December, and 1 from 3d, and another from 9th to 31st December - - - - -	18 6 4		
Ditto of 6 ditto, for January 1862 - - - - -	30 - -		
Ditto of 4 ditto, for February, and 2 from 24th and 28th February 1862 - - - - -	21 12 7		
Ditto of 4 ditto, from 4th to 25th, and 2 for 1st and 2d March - - - - -	16 12 8		
Wages of Government artificers employed - - - - -	3 1 6		
Rent of cotton godown, from 15th November 1861, to 25th March 1862 - - - - -	8 10 11	104 1 4	
Hire of 1 gin to Luximousett Sawcar of Dhurungaum, from 18th, and another from 28th to 30th November 1861 - - - - -	2 10 8		
Ditto of 2 gins for December and January, and from 1st to 22d February - - - - -	27 13 9		
Rent of cotton go-down, from 18th November to 22d February, at 2 rupees per mensem - - - - -	6 7 -	36 15 5	
Hire of 1 saw-gin to Shamoo Sowcar of Dhuringaum, from 20th to 30th, and 1 from 23d to 30th November 1861 - - - - -	3 2 8		
Ditto of 2 gins for December, January, and February, 1st and 2d March, and from 21st to 30th April, and 2 gins from 1st to 19th May 1862 - - - - -	40 1 10	43 4 6	
Hire of 2 saw-gins to Munsaram Dhurzee of Dhurungaum, from 25th December to 22d February 1862 - - - - -	20 1 11	20 1 11	
Hire of a saw-gin to Gunpub Govinda, from 21st to 30th April, from 1st to 23d May, and 2 from 20th to 23d May - - - - -	6 10 9	6 10 9	
Cost of materials for repairing 1 gin of 65 saws, and 2 gins of 20 saws for Ramohund Leevalall of Paldee - - - - -	51 1 1		
Wages of Government artificers employed - - - - -	10 6 6		

TOTAL Company's Rupees - - -

394 - 6

Government Factory, Dhurrungaum,
1st June 1862.(signed) A. Mackenzie,
Superintendent Government Factory.

III.
Bombay.

— No. 68. —

(No. 3872.)

SCREW PRESSES.

LETTER from the Secretary to the Government of the Punjab, No. 1757, dated 15 September 1862, requests that three screw presses of the best kind for use in the interior, where repairs of machinery cannot well be effected, may be forwarded as soon as possible to Sukkur, as there are large quantities of cotton grown on the Punjab rivers which cannot be exported to England without being previously pressed.

Letter from the Secretary to the Bombay Chamber of Commerce, No. 123, dated 6th October 1862, submits the opinion of the Chamber as to the best kind of screw presses for use in the districts of the Punjab.

RESOLUTION.

A native press on the most approved plan should be prepared and sent up complete, with as little delay as possible, to the Government of the Punjab; drawings of the presses, by which they can be put together, should be also sent, and a person fully competent to put up the presses.

2. This will serve as a model from which other presses can be made on the spot. Copy of the Chamber's letter should also be forwarded to the Punjab Government, telling them what this Government propose to do, and asking them whether, under the circumstances stated in the Chamber's letter, they would still wish presses to be ordered out from England.

— No. 69. —

RESOLUTION.

Ordered, that the following Letter be written to Dr. G. F. Forbes:—

Sir,

In forwarding to you the accompanying copy of a note from the Honourable M. H. Scott, I am directed to inform you that his Excellency, the Governor in Council, thinks it very desirable that you should, if possible, accompany Messrs. Scott and M'Ilwraith, or be at the northern cotton ports at the same time as they are, for the purpose indicated in Mr. Scott's note; and I am accordingly instructed to request you to go on this duty, if you can arrange to do so without serious inconvenience or delay to your duties connected with Sudasewghur and the Southern Mahratta country.

Enclosure in No. 69.

(No. 3952.)

COTTON.

DEMI-OFFICIAL note from the Honourable M. H. Scott, dated 29th October 1862, states that he proposes to go along with Mr. M'Ilwraith to Guzerat, with a view to arrange about the establishment of cotton presses there, and that, as the Chamber have nominated them members of the proposed Cotton Frauds Commission, they will take advantage of their visit to obtain information as to those cotton frauds, and suggests that Dr. Forbes, who is also a member of the Commission, should also be in Guzerat at the same time, as it would be difficult for them to accomplish their object without the assistance of a Government officer.

— No. 70. —

(No. 4223.)

COTTON PRESSES.—Sites for the Erection of, at Broach.

LETTER from Mr. *M. H. Scott* to Mr. *B. H. Ellis*, Revenue Commissioner, S.D.; dated Broach, 7 November 1862.

WITH reference to the correspondence which has taken place between my firm, Messrs. Ritchie, Steuart & Co., and yourself, with reference to procuring sites for the erection of cotton presses here and elsewhere, in Guzerat, and to your suggestion that probably the Broach gaol might suit us, I have now the honour to inform you that, in company with Mr. M'Ilwraith, I have carefully inspected the gaol. It is situated a little too high up the river for our purposes, but we can find no other available spot likely, on the whole, to suit so well; and as we are anxious to get our presses erected with the least possible delay, we shall be glad to take the gaol, if Government will part with it, on moderate terms. The experiment of up-country pressing is a somewhat hazardous one, and we are very unwilling to hamper the concern with a very large first outlay. We should be glad to give 15,000 rupees, or, should Government prefer it, we should be glad to pay a certain sum down, and such further sum as might be agreed upon, contingent on the success of the experiment.

May I beg the favour of an early reply, as time presses, and our presses are lying in Bombay, ready for shipment.

I shall feel obliged by your addressing your reply to Messrs. Ritchie, Steuart & Co., Bombay.

MEMORANDUM from Mr. *B. H. Ellis*, Revenue Commissioner, N.D., to Government, dated 13 November 1862, No. 2792.

MESSRS. Ritchie, Steuart & Co., having applied for assistance in securing sites at Surat and Broach for their enterprise, the Broach gaol appeared to be eligible, and Mr. Ellis accordingly suggested that their agents should inspect the site, and if the premises and ground appeared suitable for the purpose, an offer might be made to Government for purchase.

On a former occasion, when Government invited tenders for the purchase, no reasonable offer was made. At that time the collector was instructed that no tender below 15,000 rupees was to be accepted.

Looking to the daily increasing value of land, 15,000 rupees would appear to be a very moderate amount. The buildings alone are estimated in the dead stock accounts at upwards of 50,000 rupees. Their value is of course much less, but even if it were only 15,000 rupees there would still be the value of the land. The buildings consist of the gaol wall and interior buildings, the court house, and minor buildings for the use of the native judges, &c.

The Revenue Commissioner would suggest that Messrs. Ritchie, Steuart & Co., be offered the buildings and land on the following terms:—

1. To pay down a sum of 15,000 rupees.
2. At the expiration of two years from this payment Messrs. Ritchie, Steuart & Co., to have the option of
 - (a) Receiving back 10,000 rupees of the money, and restoring the premises to Government in good order with the land, or
 - (b) Paying a further sum of 10,000 rupees, and receiving both land and premises as their absolute property.
3. In the event of Messrs. Ritchie, Steuart & Co. transferring their interest in the land and buildings, these conditions to be binding on the transferees, and such other parties as may be found in possession at the expiration of the period fixed.

By this arrangement Messrs. Ritchie, Steuart & Co. will be fully secured against a heavy loss on account of payment for land, in the event of their scheme proving unsuccessful.

RESOLUTION.

The gaol premises may be offered to Messrs. Ritchie, Steuart & Co. on the terms proposed by the Revenue Commissioner.

III.
Bombay.

III.
Bombay.

— No. 71. —

(No. 4182.)

RESOLUTION.

ORDERED, that copies of the papers on the subject of the appointment of a commission to inquire into the means for preventing the adulteration of cotton be furnished to the Judicial Department, with the view that the Government law officers may be instructed from that department to give the commission any assistance they may require in preparing the draft of such law as may appear to them desirable to be passed for the purpose of checking the commission of these frauds.

15 November 1862.

— No. 72. —

(No. 26 of 1862.—Revenue.)

Sir,

India Office, London, 14 August 1862.

* A copy of this Memorandum will be found in another portion of the Return.

1. I ENCLOSE herewith 10 copies* of a memorandum by Mr. Clement R. Markham on the advantage of introducing the cotton plant of the coast valleys of Peru into Sind, as well as into certain districts of the Madras Presidency.

2. Mr. Markham has taken measures for obtaining a supply of seeds from Peru, and a first instalment has already been received, which will be dispatched to Madras. On receipt of a second supply, it will be immediately transmitted to you.

3. I think it very desirable that your Excellency in Council should make arrangements for giving this experiment a fair trial in Sind, where the climate resembles that of the coast valleys in Peru, while in both regions irrigation is absolutely necessary. The Peruvian cotton plant is a perennial, and a period of rest should be allowed it during several months each year, a point to which attention should be directed when the seeds are distributed. Any further information which may be received on points connected with the cultivation of this Peruvian species will be forwarded together with the seeds.

4. The accompanying memorandum should be distributed amongst the collectors in Sind, and such other persons as are likely to take an interest in the experiment, the results of which you will not fail to report to me.

His Excellency
The Honourable the Governor
in Council, Bombay.

I have, &c.
Chas. Wood.

— No. 73. —

(No. 33 of 1862.)

Sir,

India Office, London, 8 November 1862.

WITH reference to my Despatch, dated 14th August (No. 26) 1862, I now have to advise you that a small instalment of cotton seeds which have been received by Mr. Markham from the Peruvian coast valley of Pinra, will be transmitted in a parcel, containing 6 lbs. weight, to the Chief Secretary of your Government by the mail which leaves Southampton on the 12th instant.

I have, &c.
C. Wood.

(No. 4587.)

RESOLUTION.

III.
Bombay.

SMALL packets containing the cotton seed to be sent to the officers noted in the margin, with a request that the seed may be planted, and the seed, if any ripens, saved, the result being reported to Government.

Dr. G. Birdwood,
the Conservator of Forests,
and the Collectors of Dharwar, Belgaum,
Sholapoor, Khandeish, Surat, Ahmeda-
bad, Kurrachee, Hyderabad, and Shikar-
poor.

2. These officers to be furnished with copies of the memorandum regarding this Peruvian cotton seed, by C. R. Markham, dated 24th April 1862, sent by the Home Government.

19 December 1862.

— No. 74. —

No. 4212 of 1862.—Revenue Department.

From *A. D. Robertson*, Esq., Acting Chief Secretary to Government, to
H. Brooke, Esq., Secretary to the Chamber of Commerce, Bombay.

Sir,

WITH reference to the correspondence ending with the Government letter, No. 5369,* dated 17th December 1861, relative to prizes to be given with the view of stimulating and improving the cultivation of cotton, I am directed to request that you will have the goodness to report, for the information of His Excellency the Governor in Council, whether any samples of cotton have been offered for competition, and, if so, whether any and what steps have been taken for rewarding any of the competitors.

* No. 5368.

I have, &c.

A. D. Robertson,
Acting Chief Secretary to Government.

(No. 4213 of 1862.)

A similar letter to the Revenue Commissioner, Northern Division, with the alteration as per margin.

(No. 4214 of 1862.)

Also to the Revenue Commissioner, Southern Division, with the alteration as per margin.

Bombay Castle,
20 November 1862.

A. D. Robertson,
Acting Chief Secretary to Government.

— No. 75. —

(No. 146 of 1862.)

To *A. D. Robertson*, Esq., Acting Chief Secretary to Government,
Revenue Department, Bombay,

Bombay Chamber of Commerce,
Bombay, 29 November 1862.

Sir,

By direction of the committee of the Chamber of Commerce, I have the honour to acknowledge receipt of your letter, No. 4212 of 1862, dated 20th November, inquiring if any samples of cotton have been sent in for competition for the prizes offered by Government.

The committee have received two parcels of samples, one lot from Mr. C. R. Ovans, Assistant Collector of Poona, containing a variety of samples of kuppas and cotton, the produce of ryots in the Indapoor districts of the Poona zillah. The second parcel is from Mr. Bethcome at Kurrachee.

III. Bombay.

As regards the samples submitted through Mr. Ovans, the committee have no hesitation in expressing their opinion that they do not deserve any recompense, as the quality of the cotton is unusually inferior, indeed so much so as to be almost unmerchantable, the cotton having been apparently picked up from the ground, or from the plants some considerable time after it had ripened, and the staple is in consequence discoloured and nearly perished. The cotton submitted by Mr. Bethcome is in every respect quite unexceptionable, and capable of competing successfully with the best qualities of the American and Egyptian varieties. With the exception of Sea Island, it is the best sample that has been submitted to the Chamber for many years.

As regards quality, there can be no doubt that Mr. Bethcome deserves a prize for the production of a foreign variety; but whether he has complied with the rules laid down in the Resolution of Government, No. 4643 of 1861, the committee are unable to form a judgment: this question might perhaps be left with advantage to the decision of the collector of the district in which Mr. Bethcome resides.

I hand herewith copies of correspondence with Mr. Bethcome on the subject.

I have, &c.

H. Brooke,
Secretary.

Enclosure 1, in No. 75.

To *H. Brooke*, Esq., Secretary to the Chamber of Commerce, Bombay.

Sir,

Kurrachee, 5 July 1862.

I BEG to wait on you with a bill of lading for one parcel containing 10 lbs. of cotton, being sample of the staple grown on my estate at the Mulleer; it is shipped per steamer "Coringa," which will leave this for Bombay on the 9th current. Agreeably to para. F. of the Government Resolution, dated 9th August 1861, I shall thank you to submit the sample in question for the inspection of the chamber with a view to their deciding on my claim to any of the prizes sanctioned by Government.

I also forward enclosed a certificate from the Deputy Collector here in reference to the extent of land I have at present yielding cotton; this, however, does not apply to the extent of land I have cultivated with Egyptian seed, for which a certificate was declined until such time as the plants attain maturity of growth.

I have, &c.

J. Bethcome,
Cotton Planter.

P.S.—Full details regarding system of cultivation pursued, &c. &c., will be found under separate cover accompanying this.

J. B.

CERTIFICATE.

Certified that Mr. J. Bethcome has cultivated the following area of land with cotton in his garden at the Mulleer Palook, Kurrachee, Zilla Kurrachee:

In 1859-60	-	-	-	-	-	5 beegahs.
„ 1860-61	-	-	-	-	-	8 „
„ 1861-62	-	-	-	-	-	30 „

Of this year's cultivation, about one-third of the plants are now bearing, while the remaining two-thirds have been sown within the last few months, and are still young. They are not expected to bear until next year.

Kurrachee, Collector's Office,
30 June 1862.

H. Ingle,
Deputy Collector.

Enclosure 2, in No. 75.

To *H. Brooke*, Esq., Secretary to the Chamber of Commerce, Bombay.

Sir,

Kurrachee, 5 July 1862.

AGREEABLY to para. G. of the Resolution of Government, dated the 9th August 1861, relative to the distribution of "cotton prizes" in the Presidency of Bombay, I beg leave, in forwarding accompanying sample of the staple I have on my estate at the Mulleer, to submit detailed particulars of the *modus operandi* adopted by me in the cultivation. The sample sent contains 10 lbs. of cleaned cotton; a consignment was made by me about a month

month since to Messrs. Peel, Cassels & Co. who I have no doubt will be glad to allow of the same being compared with the sample.

I shall preface the information about to be tendered by stating that the cotton produced on my estate is said by competent judges to be derived from a mixture of Egyptian and New Orleans seeds; the seeds, judging from the hardy and vigorous plants they have yielded, I am inclined to think were acclimated; however, this is a mere conjecture, and it may be taken for what it is worth.

The method adopted in cultivating the staple was as follows:—

The ground was well ploughed, and drains made in it at about five feet apart from each other; these drains were well watered, and two days subsequently the seeds were sown in them, two or three seeds being put into a hole about one inch in depth, and each hole was distant from the other about three feet; the watering process was applied to these drains once during the week, and so continued until the seeds germinated, which they did in a fortnight from the time they were sown, the plants being about two or three inches in height. Towards the fourth month they commenced flowering, irrigation having been resorted to at intervals of a fortnight, and sometimes less frequently. The plants took six months attaining mature growth, when they began yielding cotton; at this period irrigation was restricted to once during the month, and eventually to two months; twelve months subsequently to the seeds being sown, the plants required no watering whatever. I must observe here, that there are no periodical falls of rain in Kurrachee, nor in Sind, in general; now and then a few heavy showers come on, but these are “few and far between.” We are indebted, therefore, to wells containing spring water for supplies of the element for watering purposes; these wells are, on an average, from 10 to 15 feet deep, and the water is obtained from them by means of “moats,” hauled up by bullocks; of these wells, I have five on my estate. I think it necessary to mention that the reason why the plants do not require watering after they are one year old is, because the soil at the Mulleer, at least the greater portion of it, is excessively moist and damp about four feet from the surface of the ground, and as the roots have by the time mentioned become deeply imbedded in the earth, they derive sufficiency of nurture from the moisture thus existing, so as to render irrigation superfluous. The plants, when 12 months old, are some seven feet and more in height; when they yield for the first year, they continue to do so for four months without intermission; after this, they cease for three months. The second year, and subsequent year, they yield uninterruptedly for eight months, the yield being considerably enhanced each succeeding year. My experience in cotton planting at the Mulleer extends over a period of a little more than three years. I am unable to state, with any degree of certainty, up to what length of time the plants continue bearing productively; but I may notice here the fact, that all those now standing on my estate, numbering some thousands, which are three years old, are yet vigorous and healthy, and give every promise of bearing crops for some time to come; and a few plants reared by the original holder of a portion of my estate, and from which the seeds that have produced the plants grown under my own personal supervision were derived, are now seven years old, and they still yield cotton of an excellent quality; this will serve to give some idea of the longevity plants are likely to attain at the Mulleer. Having no rules or data of any kind to guide me in the cultivation of cotton, the experiment was undertaken by me under peculiar disadvantages in that respect; the cultivation was altogether a novel one in that part, I being the only individual in Kurrachee who was ever known to turn his attention to it; hence I had merely my own judgment to rely upon in carrying out operations. It is not to be expected, therefore, that these were regulated by all those minute instructions respecting pruning, weeding, &c. &c., which were subsequently furnished to me by your Chamber, and which I have carefully observed in late sowings, and which will receive every attention when the plants, reared from the Egyptian seeds I have recently planted, reach maturity. The plants, therefore, on my estate were allowed to grow, as it were, “haphazard;” this has not, in the least, affected their productive powers, nor has it in any way injured their general health and vigour; the branches of nearly all of them, close to the stems or roots, crawl along the ground something after the fashion of vines, and extend on either side about five feet from the roots: strange to state, the cotton growing on these lowermost branches is generally found to be of a superior texture to that growing on the upper branches.

The soil at the Mulleer is sandy; and, so far as my experience may be allowed to be a criterion of judgment, exceedingly well adapted to the growth of cotton. I cannot, however, take upon myself to affirm whether it is suited to the cultivation of American seeds; Egyptian have been sown on my estate, and the results that have attended the experiment are, in every way, satisfactory and encouraging. I commenced sowing Egyptian seeds in the early part of February this year; they germinated in a week, and now most of the plants are bearing pods, and a great many cotton.

From as close a calculation as I have been enabled to make, I find the cost of bringing one acre of land under cultivation to be as follows:—

	Rs.
Clearing the ground as a preliminary step - - - - -	5
Levelling " " - - - - -	6
Ploughing " " - - - - -	2
Making drains - - - - -	7
Hire of one man for watering for the first year - - - - -	96
Total - - -	Rs. 113

III.
Bombay.

One acre of land is estimated to yield, on an average, 400 trees; each tree yields for the first year about 10lbs. of cotton, with seeds; the second year, double that quantity; and the third, about 25lbs.; taking the average of the first year's yield, the gross yield is 4,000lbs.: the wastage of cotton for the first year may be computed at about 200lbs. the 400 trees; this wastage is chiefly occasioned by rats, which are very numerous on my estate; they commit serious havoc among the plants, solely for the purpose of getting at the seeds, which appear to be a favoured article of food with them: the high winds that prevail in Kurrachee almost throughout the year, actually blow the cotton out of the pods; and, unless the plants are looked after carefully, and the crops picked regularly, the wastage from this cause alone would be excessive. It will thus be seen that 3,800lbs. of cotton, with seeds, are produced from one acre of land, or 400 trees; one-fourth of 3,800lbs. turns out clean cotton, the remainder being seeds; one-fourth of 3,800lbs. equals 950lbs. of cleaned cotton per acre; supposing the cotton to realise merely the present ruling rate in the market, viz., 22 rupees per maund of 82lbs., the proceeds of 950lbs. will be about 255 rupees; the expenditure entailed on separating the seeds from the cotton was at the rate of 12 annas per diem for two men working each gin (a "Dunlop's Patent"). The quantity of cotton thrown off daily was, on an average, 10lbs. each gin; having two gins working, four men were thus employed, making $1\frac{1}{2}$ rupees for separating 20lbs. of cotton daily from the seeds, or about 71 rupees for 950lbs. The cost of cleaning the cotton was at the rate of 10 annas per 100lbs., or some 6 rupees for the 950lbs.; cart hire for conveying 3,800lbs. of cotton from my estate to Kurrachee, a distance of 16 miles, was 25 rupees; adding, therefore, the whole of the items of expenditure together, the sum total amounts to 215 rupees, leaving a profit of 40 rupees per acre for the first year's crops. As the yield for each successive year will be greater, the out-turn will be proportionately increased, the only expense incurred being the wages of men employed to pick the cotton; for, as I have already observed, irrigation is rendered wholly unnecessary after the plants are a year old. The proceeds realised from the sale of the seeds of the first year's crops, I almost forgot to mention, amount to about 43 rupees, leaving a total of profit for one acre per annum of 83 rupees; from this we must make a deduction of 1 rupee per acre for land tax per annum, besides income tax.

I trust the particulars furnished herein embrace all the details requisite under the circumstances; and trusting that you will be so good as to submit the same to the Chamber at your earliest convenience,

I beg, &c.
J. Bethcome,
Cotton Planter.

Enclosure 3, in No. 75.

To H. Brooke, Esq., Secretary to the Chamber of Commerce, Bombay.

Dear Sir,

Kurrachee, 8 August 1862.

By the "Coringa" I shipped, a little more than a month since, a parcel containing a sample of cotton for inspection by the Chamber, preparatory to report thereon being submitted to Government: I trust the parcel has had safe receipt. Messrs. Peel, Cassels & Co., have shipped a small lot of the cotton grown by me to Liverpool; it corresponds with the sample forwarded to you. May I be allowed to request that you will kindly inform me when it is likely the prizes will be competed for, and the probable time the distribution will take place? I am anxious for particulars on these heads, and will be grateful for same.

Trusting you will not consider me troublesome,

I remain, &c.
J. Bethcome.

Enclosure 4, in No. 75.

(No. 101 of 1862.)

To J. Bethcome, Esq., Kurrachee.

Bombay, Chamber of Commerce,
30 August 1862.

Sir,

I AM directed by the committee of the Chamber of Commerce to acknowledge receipt of your letters of 5th July, and 8th instant, to state, in reply, that the samples are duly on hand, and will be shortly examined and reported on by the committee.

The committee observes that you estimate the produce of an acre of land at 950lbs. of clean cotton; but as this quantity appears to them enormous, they would be glad to know the actual quantity of kuppas (or seed cotton) picked from the whole plantation, stating, at the same time, the actual area of land under cultivation.

I am, &c.
H. Brooke,
Secretary.

Enclosure 5, in No. 75.

To *H. Brooke*, Esq., Secretary to the Chamber of Commerce, Bombay.

Sir,

Kurrachee, 6 September 1862.

I BEG to own, with pleasure, your esteemed favour, dated the 30th ultimo, and lose no time in replying thereto. In regard to the yield of cotton per acre on my estate, I beg to intimate that it is, as stated in my respects of the 5th July, 950 lbs. of clean cotton for the first year's crops. I do not consider 10 lbs. of kuppas per tree per annum an enormous yield; this, be it remarked, with all due deference to the opinion of the Committee of your Chamber. I was guided in my calculations, not by my own judgment alone, but by parties who are conversant with the details of cotton cultivation; we were very particular in drawing up our estimates, and I am confident these were correct almost to the letter. In fact, the productive capabilities of the plants on my estate astonished me not a little; and observing the vigorous and healthy plants reared from the Egyptian seeds I sowed in February last, I can only arrive at the conclusion that the soil at the Mulleer is peculiarly well adapted to the growth of the staple; in this conclusion, experienced parties concur.

As the certificate from the Deputy Collector, forwarded to you with my respects of the 5th July, states, I have about 22 acres of land, or 43 beeghas, yielding cotton, this being exclusive of the extent of land I have sown with the Egyptian seeds referred to above. Hitherto I was in the habit of disposing of my cotton on the spot, and not having that interest in the cultivation which I have acquired within the last 12 months, I never concerned myself about making estimates of the yield; the estimates I sent you were drawn up with careful regard to accuracy, as attention to this was essential to a document designed to be placed before a Prize Committee. The yield per acre, therefore, set down by me was the average yield of an acre per annum for the first year's crops.

I trust the information afforded will prove satisfactory. Should further particulars be required, I shall be too happy to furnish them the moment I receive your instructions to that effect.

In thanking you for your kind attention,

I beg, &c.

J. Bethcome,
Cotton Planter.

— No. 76. —

No. 4495 of 1862.—Revenue Department.

To *S. Mansfield*, Esq., Commissioner in Sind.

Sir,

In forwarding to you the accompanying copies of the report of the Chamber of Commerce, No. 146, dated 29th ultimo, and of the correspondence with Mr. Bethcome, of Kurrachee, on the subject of samples of cotton sent by him for competition for prizes, to be given in accordance with the resolution of the Government of India, dated the 9th August 1861, I am directed by his Excellency the Governor in Council to request you will have the goodness to ascertain and report whether Mr. Bethcome has complied with the conditions of the resolution of the Government of India above referred to, as modified by the resolution of this Government, No. 4643, dated 24th October 1861.

I have, &c.

A. D. Robertson,
Secretary to Government.

Bombay Castle,
13th December 1862.

— No. 77. —

(No. 34 of 1862.)

India Office, London,
13 November 1862.

Sir,

In connexion with the arrangements which are now in progress for the supply of 600 cotton gins to be despatched to Bombay, at the instance of Dr. Forbes, for eventual sale in India, through the agency of the Dharwar Cotton Factory, to such native traders and others as may require them, I forward, in this packet, a copy of a letter, and of its enclosure, from the Manchester Cotton Company, offering

III,
Bombay.

offering for sale to Government any number of the cotton gins, and other machinery, which the Company have sent out to Sedashegur, and which are now lying there. Their letter states the terms on which they would dispose of them.

2. It appears to me that advantage might well be taken of this offer, if, after communicating with Dr. Forbes upon the subject, you find that these gins are of a suitable description, and that there is a greater demand for gins than can be met by those already sent out or ordered. In such case you might avail yourself of the offer of the Manchester Company, and forward the gins to Dr. Forbes.

3. A further communication will be made to you on this subject, when the freight and other charges incurred by the Manchester Cotton Company, in addition to the cost price, have been ascertained.

I have, &c.
Chas. Wood.

His Excellency the Honourable
The Governor in Council,
Bombay.

— No. 78. —

No. 40 of 1862.—Revenue.

India Office, London,
17 December 1862.

Sir,

1. IN continuance of my Despatch No. 34, dated 13th ultimo, I forward, in the packet, copy of a second letter from the Manchester Cotton Company, in which they offer for sale a further quantity of cotton machinery, upon the same terms as those specified in the previous papers forwarded to you.

2. I request that this offer may be duly considered in connexion with the papers enclosed with my previous Despatch on this subject.

3. The enclosure to the letter from the Manchester Cotton Company, now transmitted to you, is the invoice of the machinery first offered for sale to the Government, with the additional charges for freight, insurance, &c., alluded to in the 3d para. of my Despatch No. 34, before referred to.

I have, &c.
Chas. Wood.

His Excellency the Honourable
The Governor in Council,
Bombay.

— No. 79. —

No. 2 of 1863.—Revenue Department.

To Her Majesty's Principal Secretary of State for India in Council, London.

Right Honourable Sir,

WITH reference to your Despatches Nos. 34 and 40, dated the 13th November and 17th December 1862, we have the honour to forward herewith copy of a report by Dr. Forbes, on the cotton gins offered for sale by the Manchester Cotton Company, and to inform you that, in consequence of this unfavourable report of the manner in which the gins have been constructed, we have not deemed it advisable to purchase any of them.

We have, &c.
H. B. E. Frere;
J. D. Inverarity.

Bombay Castle,
28 January 1863.

Enclosure in No. 79.

No. 48 of 1862,—Revenue Department.

To the Secretary to Government, Bombay.

Sir,

I HAVE the honour to acknowledge receipt of your endorsement, No. 4565 of 1862, dated 18th instant, forwarding, for immediate report, a letter from Her Majesty's Secretary of State for India, and also a letter from the Manchester Cotton Company, Limited.

2. In reply, I beg to state, first, with regard to the Platt and Forbes roller churkas, that I would not recommend Government to purchase these articles, for the following reasons:—It is quite true, as mentioned, that I approved of the specimen I saw in Bombay, and I still consider that, when properly made, the machine will fully realise the anticipations formed of it. Since that period, however, I have had one of these machines under trial in this factory, and I find that it is impossible to get it to work continuously for any length of time, and also that during the period it keeps working it does not yield anything like the out-turn guaranteed.

3. With respect to the first-mentioned defect, namely, the machine not keeping in work, this is undoubtedly due, to some extent in the specimen in my possession, to defective manufacture, the rollers, which ought to be parallel, being placed at a very perceptible angle. This defect may or may not exist in all the other machines, and, therefore, the one in my possession may or may not be a fair specimen of the whole.

4. Secondly, I believe that an alteration in the material used for the large roller will be requisite before the quantity expected of clean cotton will be obtained. One of the greatest difficulties I experienced when devising the machine, was to provide a material for the large roller, such as would not wear smooth under work; and when personally instructing Mr. Platt's partner (Mr. Richardson) in the construction of the churka, I endeavoured particularly to impress upon him the necessity of providing a suitable material for the roller, which, however, was not done. The fact is, that all the uncleaned cotton they received at home, and from which they formed their opinions, was old and dried on the seed; the fibre was, therefore, easily detached; and they would not understand the difference between the article in that condition and freshly picked cotton, over which, owing to tighter adhesion between the seed and fibre, a smooth roller is found to slip in working.

5. Of this fact I have satisfied myself with the machine now in my possession. By the introduction of a rough roller, I have very materially increased the out-turn of work, but I find that some arrangement different from the present will be necessary to prevent the cotton from lapping on the roller in its rough state.

6. These are points which should be rectified by the owners before offering their machines for sale, and I would recommend them to send out from their own establishment at home, some one conversant with the machine, who has been engaged in its manufacture, who would be capable of adjusting it for the work it has to do in this country, and who would thus be able to satisfy the people that its performance will equal the guarantee.

7. This once done, the machines will sell by the thousand without requiring to pass through any Government establishment; but as they now stand, even if I were able to dispose of them for the company, it would be both inexpedient and discreditable to sell an article regarding the proper working of which doubt exists.

8. The pattern machine, the origin of the "Forbes and Platt churka," I had made at the Dharwar factory, and before I went home it was tested in Bombay by the members of the Chamber of Commerce, who had been invited by Government to assemble for that purpose. The result of the trial is recorded at page 167 of the printed report of the Chamber for 1860, as follows:—"Worked by one lad; it yesterday cleaned 3 lbs. of Dharwar kuppas, yielding three-fourths of clean cotton in five minutes; 36 lbs. kuppas, or 9 lbs. of cotton per hour; 360 lbs. kuppas, or 90 lbs. clean cotton per diem.

9. Home manufactures have altered the description of roller, and the result is now apparent. I will willingly undertake to sell the machines if they will guarantee even the same out-turn of work that was yielded, as above mentioned, by the pattern from which they were made, though I was at one time led to believe that the performance of the new machine would be considerably in excess.

10. The same remarks apply also to the Dunlop machine, in as far as the material used for the roller is concerned; but in addition to that, when at home, I objected to the latter machine, for the reasons which I then notified, and it was in direct opposition to my advice that the Company sent out these articles.

11. I should mention that these "improved churkas" are adapted only for the cleaning of native cotton. I am aware that the makers and others at home were under the impression that they would also clean the American variety, and probably it is for this reason that the Company imagined that a supply of these machines would relieve the present pressure on the factory for saw gins; but if any such impression exists, it is entirely a delusion. The Forbes and Platt gin, as at present devised, is quite inapplicable to the cleaning of our American cotton, and till some alterations in construction are made they will not even do for native variety.

12. As regards the bullock power machines, I think they are much too expensive to admit of the probability of my being able to dispose of them. The people out here are not yet conversant with this description of machine, and the native dealers would be shy of investing

III.
Bombay.

about 1,200 rupees *plus* profit, insurance, interest, &c., in such an article. For this reason I should be loth to take them at the Government risk, more especially as the Company have their agent on the spot, who, if they will sell at all, is equally able to dispose of them to any person who will purchase.

13. "Cattle powers" are articles certainly much wanted, and when at home I gave considerable attention to the matter, and, in conjunction with Mr. Dunlop, of Manchester, devised a machine which I thought would suit, and the cost of which was not to exceed 45*l.* in this country. When the sample machine was ready, I applied to the Cotton Supply Association, requesting that they would obtain for me the opinion of the best practical men upon its working qualities, having on the spot both seed cotton and gins for the purpose of testing it.

14. At the request of the Association, Mr. Platt, of Oldham, and his partner Mr. Richardson, undertook this duty, and I was present with them at the trial. They suggested to the maker, Mr. Dunlop, some alterations, and as soon as these could be effected they were to return and again test its working, and report upon it. I was just then upon the point of leaving England, and unable to remain long enough to see the alterations completed. I was, therefore, obliged to leave the matter in the hands of these gentlemen. Since that period I have received no report, nor any further information on the subject. I may, however, mention that Dr. Forbes Watson, to whom I wrote to the above effect, has taken the matter up, and is now sending out some of the above machines.

15. The "hand press," I conclude, must originally have been intended solely for the Company's own operations in the interior. Their respective prices, 45*l.* and 95*l.* each, place them far beyond the reach of the ordinary dealers and cultivators of these districts, for whom the machine provided should be of the simplest construction, and not exceeding 10*l.* in price.

I have, &c.

G. F. Forbes,

Superintendent Cotton Gin Factory.

Dharwar, Cotton Gin Factory,
22 December 1862.

— No. 80. —

No. 5 of 1863.—Revenue.

India Office, London,

17 February 1863.

Sir,

Para. 1. WITH reference to my Despatch, dated November 8 (No. 33) 1862, I have to advise you that a second instalment of cotton seeds, which have been received from the Peruvian coast, Valley of Piura, was transmitted to the Chief Secretary of your Government, in a parcel containing 26 pounds weight, by the mail which left Southampton on the 12th instant.

* This paper will be found in another part of the Return.

2. I forward 20 copies of notes* on cotton cultivation, from Mr. Spruce, who is now residing at Piura, and from Mr. Blacke, Her Majesty's Vice-Consul at Payta, the former because it contains some information respecting the method of cultivating perennial cotton in the interior of Peru, and the latter because the exact time is given that the Peruvian coast cotton plant of the Piura Valley requires to attain bearing maturity.

3. I also transmit 20 copies of a report by Mr. Kendall, the Peruvian Consul, on the cotton of the Peruvian coast, Valley of Nasca, in the Province of Yea.

I have, &c.

Chas. Wood.

His Excellency the Honourable
the Governor in Council,
Bombay.

— IV. —

HOME CORRESPONDENCE.

— No. 1. —

To the Under Secretary of State for India.

IV.
Home
Correspondence.14, St. James's Square, London,
4 January 1861.

Sir,

I BEG to submit the annexed extract from the monthly official report forwarded by the mechanical superintendent of the Dharwar cotton-gin manufactory, dated 31st July last, in which he represents the desire expressed by the cotton growers of the Dharwar districts, in the Bombay Presidency, to be supplied with cattle power machinery to obviate the difficulty they now experience from the increasing scarcity of the coolie labour required for cotton cleaning.

It is now some years since the above-named deficiency of labour has been felt to operate very materially in preventing the extended cultivation of American cotton in India, and attempts have been made both by the local Government and by private enterprise to provide machinery suitable to the wants of the country.

Success, however, was not attained, chiefly on account of two adverse circumstances; viz., in the first place, the very high price of the articles sent out, and secondly, a mistake made by English mechanists in having adapted the machines for horse-power instead of bullock-power, the latter being the only description available in the cotton districts.

The cost price of the machines sent out varied from 120*l.* to 140*l.* each, an amount which placed them beyond the means of the majority of the people requiring them. And as a horse's pace in this country is estimated at somewhat over three miles per hour, whereas that of an Indian bullock scarcely exceeds one mile per hour, the machines when put to work were found to be deficient in speed, and were consequently abandoned.

Since receiving the report above referred to, I have conducted some experiments at Manchester, from which I find that a cattle-power machine may be constructed, by which both of the above-named objections may be obviated, and I beg to request that I may be permitted to have two such machines made under my own supervision, for the purpose of being taken out and set to work. When they are seen in use by the parties requiring them and proved to be satisfactory, further supplies can be obtained.

The manufacturer's price for each machine will be 40*l.*; and including freight this will admit of their being sold in India at 450 rupees (45*l.*), a sum quite within the means of the applicants.

I beg at the same time to submit a list of stores required for the use of the cotton-gin manufactory at Dharwar. These articles when procurable in the Indian bazaars are not only extravagantly expensive, but also generally of very inferior quality, and consequently much of the time of the Government artizans is wasted from having to work with inferior tools.

Owing to the difficulty of describing many of the articles which required to be made specially for the purpose, it was found that written orders sent home could not be very satisfactorily executed; but being now upon the spot, I am desirous of making arrangements for the supply of such articles, and I should be glad if, in communication with the store department, I may be permitted to select, in Sheffield, or elsewhere, the articles mentioned in the accompanying list.

I have, &c.

G. F. Forbes,
Superintendent Dharwar Cotton Experiments,

IV.
Home
Correspondence.

Enclosure in No. 1.

EXTRACT from the Monthly Report by the Acting Mechanical Superintendent of the Dharwar Cotton Gin Factory; dated 31 July 1860.

I BEG to bring to your notice that in many parts of these districts, owing to the scarcity of coolies, gin owners are desirous of procuring bullock-power machines.

I have received petitions from three different parties, one of whom wants three such machines, and the others two each; the machines to be of a size to admit of their being worked by two bullocks at a time.

They are willing to deposit an advance for them; and they state in the petitions that they will pay for the machines, when they arrive, what value Government may be pleased to put upon them.

A respectable gin owner at Bunkapore informed me that he could find occupation for 50 such machines.

STATEMENT of STORES required for the use of the Dharwar Cotton Gin Manufactory, Bombay Presidency.

	£.	s.	d.
1,500 ten-inch circular gin saws - - - approximate cost	150	-	-
100 sets of iron gin saw gratings - - - „ -	20	-	-
2 cwt. flat half-inch steel, for gin springs - „ -	5	-	-
An assortment of files, of different descriptions „ -	76	-	-
Sets of screw-plates for large bolts - - - „ -	12	-	-
Set of circular saws for timber, with spindle, pullies, &c., and set of ribbon saws - - - - -	15	-	-
A selection of suitable carpenter's tools, consisting of hand and tenon saws, braces and bits, plane, single and double, chisels, hand-vices, compasses, hammers, oil stones, &c. - - -	75	-	-
TOTAL - - - £.	353	-	-

G. F. Forbes.

— No. 2. —

From Mr. *Herman Merivale* to Dr. *Forbes*.

Sir,

India Office, 18 January 1861.

I AM directed by the Secretary of State for India in Council to acknowledge the receipt of your letter of the 4th instant, and to inform you in reply that you have his authority for procuring two cotton saw gins, to be worked by bullock-power, at a cost of 40*l.* each, and also the stores for the cotton gin factory at Dharwar, enumerated in your letter, at an estimated cost of 353*l.* The Director General of Stores (to whom a copy of this letter will be forwarded) will receive these articles and obtain freight for them to Bombay, in communication with you.

G. F. Forbes, Esq.,
14, St. James's-square.

I am, &c.
Herman Merivale.

— No. 3. —

From Mr. *Fischer* to the Right Honourable Sir *Charles Wood*, Bart.,
Her Majesty's Secretary of State for India.

Right Honourable Sir,

January 1861.

THE crisis in the cotton trade of England must be my apology for trespassing upon your time and attention. In the present complicated, critical, and perilous position of the cotton estates of the south of America, as described by the "Cotton Supply Reporter" of the 1st December last, whereby an enormous deficiency of half a million of bales in the supply of cotton to England is anticipated, and which deficiency most probably will increase, to the ruin and distress of the millions in Lancashire, I have a very simple scheme, I think, whereby this deficiency could not only be met, but our dependence upon

America

America for an article on which the prosperity of England so greatly depends may be overcome. This simple scheme I am prepared to propound if Government will award me a fitting remuneration, and give it the encouragement and support it deserves; and so confident am I of the soundness of my scheme, that I am willing that the remuneration shall be made dependent upon its success.

I am a settler in the district of Salem, Madras Presidency, of 38 years' standing, and am well known to its Government, and have been engaged in growing cotton the whole of that time, and have made the cultivation and trade of cotton my study, and am therefore led to conceive that my opinion in the matter is entitled to consideration. Such consideration, I trust, it will receive at your hands as the Minister of India, and this at a time when the best interests of England are threatened to be involved in ruin and disaster.

I have, &c.
G. F. Fischer.

IV.
Home
Correspondence.
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— No. 4. —

From Mr. *Haywood* to Sir *C. Wood*.

Sir,
Manchester Cotton Company (Limited),
1, Newall's Buildings, Manchester, 20 Feb. 1861.

A COMPANY has been formed in Manchester, styled the Manchester Cotton Company (Limited), having for its object the purchase of cotton in India and other countries. From the very valuable information obtained through Dr. Forbes, the acting directors of this company have determined to establish an agency in the cotton-growing district of Dharwar. It has been resolved, as a preliminary measure, to send out a representative of the company, to make the necessary local arrangements for commencing their operations. In taking this step, the acting directors feel that the advice and co-operation of Dr. Forbes on the spot is a matter of essential importance to the success of the project. The directors therefore respectfully request that the Right Honourable the Secretary of State for India will be pleased to place the services of Dr. Forbes temporarily at the disposal of the company, to aid their representative during his stay in India (which may extend over a few months) in carrying out the objects of his mission. As the representative of the company will leave England in the same steamer with Dr. Forbes, the acting directors will feel greatly obliged by as early a reply as convenient to this communication.

I have, &c.
G. R. Haywood, Secretary.

To the Right Honourable
Sir Charles Wood, Bart., M. P.

— No. 5. —

From Mr. *Herman Merivale* to Mr. *Haywood*.

Sir,
India Office, 25 February 1861.

I AM directed by the Secretary of State for India in Council to acknowledge the receipt of your letter of the 20th instant, conveying the request of the Manchester Cotton Company that the services of Dr. Forbes may be placed for a time at their disposal, in order that he may assist by his advice and co-operation the agent whom the company are about to despatch to Dharwar in making the necessary local arrangements for commencing their operations.

In reply, I have to acquaint you that Sir Charles Wood will be happy to authorise Dr. Forbes to render to the representative of the company any assistance which he may be able to afford consistently with the due discharge of the duties of the office which he now holds.

A copy of this letter will be furnished to Dr. Forbes.

I am, &c.
Herman Merivale.

G. R. Haywood, Esq.

IV.

Home
Correspondence.

— No. 6. —

From Mr. *Herman Merivale* to Mr. *Fischer*.

Sir,

India Office, 16 March 1861.

I AM directed by the Secretary of State for India in Council to acknowledge the receipt of your letter (without date) in which you state that you have "a very simple scheme" whereby the deficiency in the supply of cotton can not only be met, but our dependence upon America for the article may be overcome, which you are prepared to communicate, provided the Government will give you encouragement and support, and award you a fitting remuneration dependent on its success.

Sir Charles Wood is unable to give any definite reply to so vague a proposal, but he would suggest to you the expediency of your putting yourself in communication with the persons most directly interested in the supply of cotton to this country, and in the meantime a copy of your letter has been forwarded for the information of the Cotton Supply Association of Manchester.

G. F. Fischer, Esq.,
Salem, Madras.

I am, &c.

Herman Merivale.

— No. 7. —

From Mr. *Herman Merivale* to the Secretary of the Manchester Cotton Supply Association.

Sir,

India Office, 14 May 1861.

IN continuation of Mr. Baring's letter of the 24th November last, I am directed by Secretary Sir Charles Wood to transmit to you, for the information of the Manchester Cotton Supply Association, the copy of a letter from the Government of Madras, dated the 24th of January last, with its enclosures, on the subject of Mr. Shubrick's experiments in the culture of Egyptian cotton in the Chingleput district; and also the copy of a letter from his Excellency the Viceroy of India in Council, dated the 8th of March last, which transmitted a further report by the Secretary of the Agricultural and Horticultural Society, on specimens of cotton grown in the Hyderabad assigned districts and the Shoropore territory.

I am, &c.

Herman Merivale.

— No. 8. —

From Mr. *Monckton* to the Right Honourable the Secretary of State for India.

Sir,

16, Regent-street, 22 June 1861.

As the question of how India can be made to compete with America, and other countries in producing cotton is one of vital import to that country, I trust I may be pardoned for addressing a few words to you on the subject.

2. The first thing to be done is to give security to the capitalist; secondly, to promote the growth of cotton by continually mooted the subject to the natives, through the collectors of districts. Thirdly, to supply each collector of districts where native cotton is now cultivated with seed, and require him to distribute it to the principal landholders, and offer premiums for the best cultivated field and sample, taking care that the entire produce so raised shall be brought to market, sold, and the amount remitted to the grower. This will give the first stimulus to the natives, who will never do anything progressive without a perpetual stimulus.

3. Whenever a capitalist wishes to purchase land, give him every facility for so doing, thus supposing the land to be fairly in the possession of the Government

ment as waste jungle or forest; have proper assessors to value it, assuming a progressive rental up to 30 or more years, as may be deemed desirable; it will then be saleable in fee simple in India, as land now is in England at so many years' purchase. Again, should the land belong to a native, it is, of course, optional with him to sell it or not; supposing that he has sold it to an English capitalist, it is still liable to the revenue or land-tax upon it; allow this land-tax to be redeemed on the same principle that the land tax can at any moment be redeemed in England. There can be no possible objection to this course; because, if an European element is desirable, there is no other way of obtaining it; and also, because it will at once afford a means of replenishing the much exhausted treasuries. Again, if a fair equivalent is given for the land-tax, it is only right that the person who risks fortune at such a distance should reap the benefit of such improvements as he may locally effect, while the Government derive the benefit of his capital, skill, energy, and civilisation. It is true that the assertion may be made that, owing to the improvements made in the land, its value is enhanced, and that therefore, at a subsequent settlement, the Government revenue would be increased. Were it absolutely certain that the entire land-tax of India would be forthwith redeemed by English capitalists, it would still be a question whether it would not be better to let the land be held free and to have millions of capital expended on it; but where we know that but a very small portion indeed of our Eastern possessions could ever be purchased outright, it would be even a wiser policy to yield somewhat, so as to induce settlers with energy and money to come there, rather than by grasping at too much to lose all.

4. Supposing that by the encouragement given settlers have located themselves in the cotton districts, it is obvious that they as regards cultivation would be no better off than indigo planters. They would have again to be protected against the frauds of the natives, while the latter would have to be defended against the oppression of the settlers; this could be done as follows, with great ease. Have printed forms of agreement, or puttahs and kuboolents, as they are called in the North West Provinces; these should be in triplicate, and be so arranged in a book that one portion torn out should be given to the cultivator, another to the landlord, European or native, while the third or triplicate would remain bound up in the book, and be placed in the collector's office; any matter in dispute would thus be easily adjusted in a most summary way by the collector or his assistants; there could be no mistake as to the terms of the contract. Every advance to a cultivator would only be made on a proper printed receipt being given, and would further be recorded on the back of the agreement; by such means there could be no oppression on the one part, or evasion of agreements without remedy, on the other; and there would be no necessity for special small cause courts; indeed, when evasion became impossible it would cease to be, and there would be no suits, and this system could be equally well applied to the indigo planters as to the cotton ones.

4. It is not to be supposed that the Government should after the first two, or possibly three years go on supplying seed, and guaranteeing the sale of the produce; this would fall into the hands of those interested in the produce of cotton still for some years, and till it became an established business the collector should be required to continue to urge on the natives to cultivate the better sorts of cotton, and to give premiums for the extension of the cultivation as well as for the best samples; in short, the natives must never be led to suppose that the Government have ceased to take any further interest in the matter, and that they are left to battle it out between their prejudices and any influence that settlers may obtain; herein lies the mainspring of success or failure; when the trade is well established self-interest will be the stimulus, but for years the native will think there is some dodge in it to circumvent him; he will think also, probably, that though it may succeed one year, it may fail in another, that the new cotton to which he is not accustomed, may do well at first, and then having exhausted the soil, fail for that produce, and ruin the ground for other things; he may have real and good reasons mixed up with many absurd ones, the absurd ones probably being to him the most cogent. Few who know natives well can follow their idea; but those who do not, cannot conceive what nonsense they most readily believe; they have some faith in the public officers and Government, and there can be no truth more certain

IV.
Home
Correspondence.

than that the officials must be always holding out every source of encouragement.

5. A title costs nothing, it would be easy to confer a dignity of some sort on the man whose cotton cultivation reached a certain area in a given time, and who produced most of the best article on that area ; combining extent of cultivation with quantity and quality produced, and thus benefiting his country.

6. It is a mistake to go only to certain parts of India as being better than others ; though some parts are undoubtedly better, any part of India now growing cotton, can grow other cotton of an improved quality, though possibly not quite equal to that grown on the very best soil. There is an immense market for improved cottons, though not actually of the finest descriptions, and often where the soil is not the best naturally, still there are frequently greater means of irrigation or of manuring, or of having a large supply of cheap labour, than in the more distant though richer soils, which are removed from facilities of transport ; cultivation and care have done wonders for the inferior sorts of England, and why should not the same result occur elsewhere if properly attempted ?

7. As regards means of transit, all the efforts now being made to make common roads is almost money lost as regards attaining the desired end ; for the cotton transit, a metalled road is an excellent thing, but a cheap rail is far better. Any one who has seen the cheap rails in mining districts with their small trucks, would see at once that such rails could be laid down in India with the greatest facility at a very cheap rate per mile, and that the trucks laden could be drawn by relays of bullocks, not only very rapidly, but very cheaply ; five to six miles an hour could be very easily realised, and each bullock could thus draw three or four times what it could with the present clumsy native carts drawn over sandy, muddy, or broken up roads ; any number of bullocks up to 40 or 50 could be attached by ropes or chains to a number of trucks ; these having gone, say six miles, would return with empty trucks, and be ready for their next day's work. The only capital required would be the rails. These, *i. e.*, such as are used by contractors, would cost perhaps 500 *l.* per mile, and they could be well laid by the officers under the present road fund committees, under the superintendence of the district engineer officer. Such rails do not require that exactness in levelling that is necessary where a locomotive is used, and can be laid up and down the slopes of hills or mountains, where there would be a few more bullocks stationed to do the extra work. In addition to the rail would be the cost of the trucks, which being on a small scale could for the most part be put together in India, the iron work being supplied from England, and in this case a few models only need be furnished from England. As the regular railroad made its way, these trams or slight rails would be shifted to other localities.

8. From what has been said, it is obvious that the bullock railway would be entirely a Government concern, and it would undoubtedly well repay any outlay on it, but even if it did not, the very fact of its being the means of opening out the cotton of India to the world, would in itself render it a cheap expenditure of public money for a public benefit.

9. No time is to be lost ; the order for the rails should, if the scheme be approved, be given at once, and in a few months the first rails would be laid, probably in a month several miles of rail could be shipped ; even if nothing could be done with these rails after they had done their duty, they would sell as wrought iron in India, though worn, for much more than their cost price in England new.

10. The bullocks would cost nothing, for the contractors would bring any number of them. Camels could also be used most profitably in dragging trucks, they would most probably average not less than seven or eight miles an hour, and go greater distances.

11. Once let the Indian Government take the initiative in earnest as above, and there will be found no lack of capital to go on with ; but the present golden moments must not be lost, what is really gold to-day in the disturbed state of America, will be silver to-morrow when there is a possibility of the war ending,
and

and there being an adjustment of their differences; and copper shortly after, when people begin to think that after all America is so much nearer, and that there are too great interests at stake there for them to throw any impediments in the way of our obtaining our supplies from them. Once get the capital transferred to India, and the interest of our people will soon be to make the investment profitable, but there is no time to be lost in obtaining the transfer. Trusting that you will excuse the liberty I am taking in thus addressing you.

I have, &c.

E. H. C. Monckton,

Late Bengal C. S.

IV.
Home
Correspondence.

— No. 9. —

From Mr. *T. W. Hamilton* to the Right Honourable the Secretary of State for India.

18, Cumberland-street, Edinburgh,
North Britain, 27 June 1861.

Sir,

MAY I, as a person interested in the question of rearing cotton in India, look to you for information on the following points? Are Englishmen taking grants of jungle land in India, with a view to rearing cotton, to be countenanced by Government? or are they to be considered interlopers, as persons settling in India for the purpose of farming lands, were formerly regarded? also, what is to be their position now in reference to the "Mofussil" courts of justice?

I would not have troubled you, Sir, in this manner, had I not an interest at stake (as will appear from the fact of my having taken from Government a grant of upwards of 5,000 acres of jungle land in Oude, with a special view to rearing cotton); and had I not been also requested by a numerous and influential body of persons, similarly interested, to apply to you for information on the above points.

I have, &c.

J. W. Hamilton.

— No. 10. —

From Mr. *Herman Merivale* to Mr. *Monckton*.

Sir,

India Office, 9 July 1861.

I AM directed by the Secretary of State for India in Council, to acknowledge the receipt of your letter of the 22d ultimo, relative to the means to be adopted for increasing the quantity and improving the quality of the cotton supply from India to this country, and I have to convey to you Sir Charles Wood's thanks for your suggestions, which will receive his best consideration.

I am, &c.

Herman Merivale.

E. H. C. Monckton, Esq.

— No. 11. —

From Mr. *Platt* to Sir *Charles Wood*, Bart.

Manchester Cotton Company (Limited),

1, Newall's Buildings, Manchester, 25 Oct. 1861.

Sir,

I BEG to request the favour of your perusal of the accompanying extract from a letter received from Mr. G. R. Haywood, the Commissioner sent to India by this Company, and dated Bombay, 26th September 1861.

At a special meeting of the Executive Committee of this Company, held this afternoon to consider Mr. Haywood's communication, it was resolved "that immediate application be made to Sir Charles Wood, to solicit the favour of his

IV.
Home
Correspondence.

forwarding with all despatch, a telegram, directing the settlement of the boundary line question, and earnestly entreating him to send such explicit directions as will prevent the grievous calamity of a year's delay in the operations of this Company at the port of Sedashegur and the district of Dharwar."

I feel assured that it will be satisfactory for you to know that this Company has taken the most energetic measures since its formation, having chartered a vessel, the "Seringapatam," which will sail in a few days direct to the new port of Sedashegur, and is now receiving its cargo (in Liverpool), which consists of the following: hydraulic cotton presses, hand cotton presses, steam engines, boilers, power cotton gins, hand cotton gins, iron houses and warehouses, timber, tools, implements, and other machinery, valued at upwards of 25,000*l*.

The Company expects to be able to forward a similar cargo of equal value in the month of December. If any dispute between the officers of the Madras and Bombay Governments is allowed to interfere with your orders, and those of Sir George Clerk, the Government of Bombay, in regard to the immediate completion of the road to Dharwar, and the pier at Sedashegur, all the energetic efforts and expenditure of capital of this Company, and all the anxiety which you and the Government have displayed, will be useless for the ensuing year; I therefore earnestly beg that you will telegraph immediately to Suez (so as to catch the last Bombay Mail), with peremptory instructions for the immediate settlement of the boundary question, and to remove all doubt and delay in regard to the new road and pier.

I have, &c.

John Platt, Chairman.

Enclosure in No. 11.

EXTRACT from Letter from Mr. *G. R. Haywood*; dated Bombay, 26 September 1861.

I AM convinced that the Madras Government is disposed to delay and obstruct the settlement of the line of boundary; I think therefore that a letter should be sent at once to Sir Charles Wood, stating that the directors are so informed, and urging that a telegram be despatched forthwith, ordering peremptorily that the whole of that portion of North Canara which includes the harbour and the road, and which is bounded on the south by the river Gairsoppa should be at once handed over to the Bombay Government. Sir George Clerk is, I believe, in earnest to have this settled, and he will meet the Governor of Madras in a few days at some convenient place on the coast below Sedashegur, but in the event of any difficulty arising between the two Governments, it would be well to be beforehand, and obtain once for all a settlement of the question by Sir Charles Wood. If this be not done, delays may occur in the construction of the pier and road which will render my mission to Dharwar useless for a whole year. The cotton trade cannot afford to lose a year or a day, and therefore our best efforts must be given to forcing this port open.

— No. 12. —

From Mr. *Herman Merivale* to Mr. *Platt*.

Sir,

India Office, 28 October 1861.

I AM directed to acknowledge the receipt of your letter addressed to Sir Charles Wood, dated 25th instant, forwarding an extract from a letter from Mr. Haywood, the agent of your company in India, in which he suggests that orders should be sent by the Secretary of State for India to counteract the indisposition of the Madras Government to complete the boundary line between Madras and Bombay, and the wish to delay the construction of certain public works in Dharwar, and at the Port of Sedashegur, which Mr. Haywood supposes to exist on their part.

In reply, I am directed to inform you that Secretary Sir Charles Wood has no reason to suppose that the Madras Government are actuated by any such feelings; and instructions have been some time ago sent to India on the subject enjoining its settlement with as little loss of time as possible.

With respect also to the public works alluded to, the Secretary of State has been informed in despatches of a recent date from the local Governments, that the immediate and rigorous prosecution of the pier at Sedashegur had been

been sanctioned, and that no effort will be spared to complete the road from Dharwar to the above-mentioned port, as early as possible, although this cannot be accomplished this year.

I am directed to express Sir Charles Wood's satisfaction at the statement in your letter of the progress already made by the Company in furtherance of the great object for which it was formed.

I am, &c.

Herman Merivale.

To John Platt, Esq.,
Chairman of Manchester Cotton Company.

IV.
Home
Correspondence.

— No. 13. —

From Mr. *Dunlop* to the Under Secretary of State for India, London.

Marlborough-street, Oxford-street,
Near the Oxford-road Station, Manchester,
18 December 1861.

Sir,

I BEG to enclose a copy of a letter I have received from Dr. Forbes, requesting me to make, as quickly as possible, 100 18 saw-gins.

I shall be obliged by instructions whether the Secretary of State for India in Council desires that I proceed with this order or not.

Dr. Forbes's letter is so urgent that I have already begun the order; I will not proceed, however, if I hear from you to that effect.

The cost of each gin, packed in good strong cases, one gin in each case (the saw-washers being packed in a tin case), will be 10 *l.* 8 *s.*, delivered in Manchester to the carriers.

Yours, &c.

John M. Dunlop.

Enclosure in No. 13.

From Dr. *Forbes* to Mr. *Dunlop*.

My dear Mr. Dunlop,

Dharwar, 8 November 1861.

You will be as sorry as I am, I have no doubt, to hear of the fate of the little gins; they are literally smashed to atoms, not one saved, Mr. Haywood will write and tell you. I am very glad that he was present to witness the opening of the cases. The cause is clear enough: in the first place, the delay which occurred in completing the order; the ship was consequently unable to reach Bombay before the monsoon set in, and the machinery had to be landed there—that was your fault: secondly, had the people to whom you consigned them taken the least trouble, as they ought to have done, warned as they were of the nature of the contents, they might have been saved without doubt; instead of this, they appear to have left them to their coolies, who, instead of lifting them into the store-rooms, turned them over and over like a bale of cloth. Mr. Haywood can tell that an examination of the cases showed distinctly that this had been done; that was your agent's fault, and they should be ashamed of themselves: I have of course been obliged to report them to Government. As far as our handling of them was concerned, I can personally answer for the utmost care having been taken. Not only was I at Coompta myself, but I had ordered down my assistant-superintendent and head Maistry, the man who brought the other lot up scatheless, though the boxes were much larger and heavier. You have no conception of the fix that this has put me in. Mr. Haywood can tell how the ryots are daily crowding into the factory, and what an outcry there is when they find they are to have no gins. The result is not only their loss, but the cotton so much wanted at home must remain where it is for want of the means of cleaning it. It is no use lamenting, however, we must now make the best of a bad job: with promptitude and energy you may still do much to help us in this difficulty, and I trust that you will let no consideration whatever prevent your doing your very utmost. I have written for Government sanction to-day for authority to order 100 gins of 18 saws each from you; I quote from my letter the passage I have written about them:—

“As time is of the utmost importance to ensure the speedy arrival of the gins, I beg to state that I have written to the manufacturer, Mr. Dunlop of Manchester, intimating that

IV.
Home
Correspondence.

I have made this application, and requesting him to make such preparations as will enable him to complete the order with the least possible delay after it shall have reached him;” and you may rely on its coming in due course. I remember your telling me that, now you had all the moulds for castings, you could turn them off in any number quickly. All I want at present consists chiefly of castings, so I hope you shall be able to do so; all I want of each gin is as follows:—

- | | |
|------|----------------------------|
| 1st. | The castings of the frame. |
| 2nd. | “ pulleys. |
| 3rd. | “ washers. |
| 4th. | “ saw and brush bearings. |

Don't forget that the above castings include the frame for the flue and the cross-bar on the top. As a precaution also, put the lining-boards into the frames, as I find that when fastened tightly they tend to preserve them from breakage. Of wrought-ironwork I only require,—

- | | |
|------|-----------------------------------|
| 1st. | The spindle for the saws. |
| “ | brushes. |
| 2nd. | Nuts and bolts for the framework. |
| “ | “ bearings. |

The remainder of the gin (consisting of the hopper box, flue, brushes, saws) I have got to make here, and they shall be set about at once.

Remarks.—Please observe the situation of the loose pulley of the brush and saws; it was out of line, and has given no end of trouble; it must be moved three-quarters of an inch inwards towards the body of the gin. The rack for stretching the strap to be cast separately and fastened by nuts; the teeth of the rack to be much smaller. It is this article which must be moved three-fourths of an inch inwards, and casting it separately will save nine inches of packing-case.

Loose Pulley.—The means for oiling must be remedied: at present there is only a hole, and the oil escapes; it runs over the strap and makes it slip. Do not turn any of the pulleys in the lathe—leave them rough as they are cast; all formerly sent had to be punched rough. Please leave the centres in the brush and saw spindles, so that I may get them into the lathe, and I wish oil-grooves cut in their bearings. There is nothing further, except a word or two with regard to packing. The frame to be taken to pieces; and I find, with the rack detached, the whole will pack in a case of the following dimensions:—length, 3 feet 2 inches; breadth, 2 feet 10½ inches; depth, 1 foot 4 inches, room for shavings included. This is little more than a third of the cases you sent the small gins in; they will be easily handled, and for safety sake I prefer having a case to each machine; let the cases be rather stronger than before. There will be room in the box for a tin case to hold the saw-washers, and they should not be put in loose. They must be turned smooth, and not heavier than the last lot; please cast them with same mould. The large pulleys to be better fastened down in the case; last time they rattled about and got broken. My post-hour is nearly up, and to catch the outgoing mail I must conclude. I have a good deal to tell you with regard to the last gins, but it must keep till next mail. As regards price, I must leave it to yourself to charge the proper and fair price of castings according to their weight: the total weight of the frame I find is 3 cwt. 2 qrs. 4½ lbs., the pulleys and washers 60 lbs., the saw and brush bearings 28½ lbs.; the other few articles we can't differ about. Now as regards freight, you must undertake that, making the best bargain you can; it will never do to let them go through the store department; I have not yet seen the stores you sent there. If you can get a ship to deliver at Sedashegur, so much the better; I will have my people there, and there will be no breakage. I saw a ship advertise to deliver goods on the Malabar Coast, and there may be others. With regard to the time you will have to execute the order, I must tell you that the coast is considered closed from Bombay on the 15th of May. This letter should reach you, at latest, by the 9th of December; you must not allow the ship a day less than four months for her passage (more if you can); this will leave just one month for getting the articles ready and shipped. If it cannot be done in that time, and they have to come to Bombay, they would get there in the monsoon, have to be landed like the last lot; the same disaster would be certain to occur, and it will be the best not to send them. I have told you how we are situated, and if by any possibility you can, I certainly think you ought to make a push to help us. If you cannot get 100 ready, send even 50, and go in at that at once, without waiting for further orders. Be sure you write by return mail, that I may know what to expect.

Yours, &c.
G. F. Forbes.

— No. 14. —

IV.
Home
Correspondence.From Mr. *Baring* to Mr. *Dunlop*.

Sir,

India Office, 24 December 1861.

I AM directed by the Secretary of State for India in Council to acknowledge the receipt of your letter of the 18th instant, enclosing a copy of one from Dr. Forbes to you of the 8th of November, requesting you to supply certain portions, as explained by him, of 100 18-saw cotton gins; and I am to inform you that you may proceed to execute the order on account of the Secretary of State for India in Council, upon the terms offered by you, viz.,—that the materials for each gin shall be well packed and delivered in Manchester at the price of 10 l. 8 s. each, and upon the following conditions, viz.,—that the gins shall be subject to inspection and approval, both as to manufacture, conformity with Dr. Forbes's specifications, and packing, on the part of the Secretary of State (which duty he will request the Cotton Supply Association of Manchester to undertake), and that they be delivered and packed on or before the 8th of January next.

You will inform me when the gins are approaching completion, in order that the necessary instructions may be issued to the Director General of Stores of this office to receive charge of them, and to take measures for forwarding them to India. You will also be so good as to furnish at once full particulars of the size, weight, and number of the packages, in order that steps may be taken for the shipment.

John M. Dunlop, Esq.,
Marlborough-street, Oxford-street, Manchester.

I am, &c.,
T. G. Baring.

— No. 15. —

From Mr. *Baring* to the Secretary to the Cotton Supply Association.

Sir,

India Office, 24 December 1861.

I AM directed by the Secretary of State for India in Council to inform you that Mr. John M. Dunlop has been authorized to manufacture, for transmission to Dr. Forbes, the superintendent of the gin factory at Dharwar, certain portions of 100 18-saw cotton gins, and I have to communicate to you Sir Charles Wood's request, that the Cotton Supply Association will be so good as to cause the gins to be examined as to their manufacture, in conformity with the directions contained in Dr. Forbes' letter, and packing, previously to their delivery to the officers of this department. Any expenses which may be incurred in this examination will be defrayed by this office.

Copies of Dr. Forbes' letter, and of my letter of this day's date to Mr. Dunlop, are enclosed for your information.

To the Secretary, Cotton Supply Association,
Manchester.

I am, &c.,
T. G. Baring.

— No. 16. —

From Mr. *Dunlop* to the Under Secretary of State for India, India Office,
London, S.W.

Marlborough-street, Oxford-street,
(Near the Oxford-road Station, Manchester,)

26 December 1861.

Sir,

I BEG to acknowledge the receipt of your letter of the 24th instant, ordering the 100 18-saw cotton gins specified in Dr. Forbes' letter to me of the 8th of November to be proceeded with, and for which I beg to tender my thanks.

IV.
Home
Correspondence.

All the conditions named in your letter I gladly agree to, with the exception of the time stated when the machines are to be ready. It is quite impossible to have them down by the 8th of January, but I will do all I can to have them completed on or before the 8th of February.

I will get them ready in sets of 25, so that some of them may be forwarded sooner than the others.

Yours, &c.

John M. Dunlop.

— No. 17. —

From Mr. *Sutton* to the Under Secretary of State for India.

Cotton Supply Association Offices,
No. 1, Newall's Buildings, Manchester,
27 December 1861.

Sir,

I BEG to acknowledge the receipt of your communication of the 24th instant, (and enclosures), conveying the request of the Secretary of State for India, that this Association would institute an examination of portions of cotton gins about to be forwarded to Dharwar. I am directed to state, in reply, that the executive committee of the Association will gladly undertake the appointment of some competent person to make the required inspection. Observing that the machinery is wanted in special haste, they desire further to say, that they would be happy to superintend the shipment of the gins from Liverpool direct for Bombay or Sedashegur, in accordance with Dr. Forbes' suggestion, if their so doing would be of any service.

I have, &c.

S. O. Sutton,
Interim Secretary.

The Under Secretary of State for India,
India Office, London.

— No. 18. —

From Mr. *Dunlop* to Mr. *F. W. Prideaux*, India Office.

Marlborough-street, Oxford-street,
(Near the Oxford-road Station, Manchester,)
30 December 1861.

Dear Sir,

I HAVE received a letter from Mr. Baring, who directs me to address the answer to you.

Mr. Baring's letter is respecting the time when the 100 gins are to be ready for shipment. I have got the castings and forgings made for nearly the whole of them. The turning and fitting is proceeding as rapidly as possible, and I have put as many men on this work as can work at it.

I shall have 50 of the machines ready for inspection and packing on the 8th of January, and the remaining 50 in two weeks after, or perhaps a day or two less for the second 50.

I trust that these times for delivery will be satisfactory.

Yours, &c.

John M. Dunlop.

— No. 19. —

From Mr. *Baring* to Mr. *Dunlop*.

Sir,

India Office, 9 January 1862.

I AM directed by the Secretary of State for India in Council to acknowledge your letters of December 26th, 30th, and 8th instant, and to say, in reply, that Sir Charles Wood accepts your offer on the conditions contained in my letter of the

the 24th December last, with the modification that 50 of the gins are to be delivered on or before the 22d instant. He relies upon your using every exertion to complete them, if possible, before that date.

The packages should be directed as follows :—

Government of India,
Civil Stores,
Revenue Department,
(Ship's name),
Bombay.

To be sent on immediately to destination.

The Cotton Supply Association have been requested by this post to take charge of the gins now ready, and to forward them to Bombay with the least possible delay.

I am, &c.

T. G. Baring.

To John M. Dunlop, Esq.,
Marlborough-street, Oxford-street, Manchester.

— No. 20. —

From Mr. *Baring* to the Secretary to the Cotton Supply Association.

Sir,

India Office, 9 January 1862.

I AM directed by the Secretary of State for India in Council to acknowledge the receipt of your letter of the 27th ult., and to convey to you Sir Charles Wood's request, that the Cotton Supply Association will be so good as to take charge of the 50 saw-gins now completed by Mr. Dunlop, and also to take the necessary measures for forwarding them to Bombay without delay.

The time for the completion of the remaining 50 gins by Mr. Dunlop has been extended to the 22d instant, and I have to request that they also may be forwarded, as soon as ready, to Bombay by the earliest opportunity.

You will be pleased to forward to me the bill of lading, for transmission to India in due course.

I have, &c.

T. G. Baring.

The Secretary, Cotton Supply Association,
Newall's Buildings, Manchester.

— No. 21. —

From Mr. *Merivale* to Mr. *Sutton*.

Sir,

India Office, 22 March 1862.

I AM directed by the Secretary of State for India in Council to acknowledge the receipt of your letters of the 30th January, 5th and 14th February, and 13th instant, with the last of which you forward a bill for expenses incurred by the Cotton Supply Association, in relation to the 100 saw-gins forwarded under their superintendence to Bombay, amounting to 132*l.* 19*s.* 9*d.* The Accountant General has been instructed to forward to you an order for that amount; and I am desired by Sir Charles Wood to request that you will tender to the Association his acknowledgments for the trouble which they have taken in this matter.

I am, &c.

Herman Merivale.

S. O. Sutton, Esq., Cotton Supply Association,
Newall's Buildings, Manchester.

IV.
Home
Correspondence.

— No. 22. —

From Mr. *Merivale* to Mr. *Hammond*.

Sir,

India Office, 9 May 1862.

I AM directed by Sir Charles Wood to acknowledge the receipt of your letter of the 28th ultimo, with which you forward, by desire of Her Majesty's Secretary of State for Foreign Affairs, copy of a Despatch from Her Majesty's Consul at Charleston, respecting the prospects of the cotton crop in the Southern States of America during the present year, and to request that you will convey to Earl Russell his thanks for the communication.

I am, &c.

Herman Merivale.

E. Hammond, Esq.,
Foreign Office.

— No. 23. —

From Mr. *Layard* to Mr. *Merivale*.

Sir,

Foreign Office, 10 May 1862.

I AM directed by Lord Russell to request that you will state to Sir Charles Wood, that Her Majesty's Minister at the Hague has reported to his Lordship that the encouragement which is given to the cultivation of cotton in the East Indies by the civil war in America, has led to the formation at Rotterdam of a joint stock company for promoting the planting of cotton in Netherlands, India.

Sir A. Buchanan adds, that a Royal decree has been granted to this company securing to them the privileges enjoyed by such associations in the Netherlands.

I am, &c.

A. H. Layard.

Herman Merivale, Esq., C.B.
&c. &c. &c.

This letter was acknowledged, with thanks, in a letter dated 14th May 1862.

— No. 24. —

From Mr. *Baring* to Mr. *Sutton*.

Sir,

India Office, 29 May 1862.

I AM directed by Sir Charles Wood to acknowledge the receipt of your letter of the 22d instant, with 1,000 copies of a circular conveying information as to the requisites for the improvement of Indian cotton, and to acquaint you, for the information of the Cotton Supply Association, that they will be forwarded to the several Governments of India for distribution in the original, and a translated form, among persons engaged in the cultivation and preparation of that article.

I am, &c.,

T. G. Baring.

S. O. Sutton, Esq., Cotton Supply Association,
Newall's Buildings, Manchester.

— No. 25. —

From Mr. *Edwards* to Sir *Charles Wood*.

Sir,

174, Euston Road, N.W., 23 July 1862.

A JOINT stock company, for the purposes of extending the cultivation and use of Indian cotton, and also of establishing steam navigation on the river Godavery, is about to be formed.

A meeting

A meeting of gentlemen, interested in this question, will be held on Tuesday next, the 29th inst., to consider the Preliminary Prospectus of "The Indian Cotton Company (Limited)," of which I beg leave respectfully to submit a copy for your consideration.

As the promoter of the company, may I venture to ask from you,—

1st. Whether the temporary roads round the Sinteral, the Euchampally, and the Dewala, many barriers on that river, are competent, according to the estimated period of time named by the engineer, Captain Haig?

2d. Whether any and what rate of toll has been determined for the use of those roads? And,

3d. Whether the Indian Government here would feel disposed to authorise and instruct the Madras Government to afford information and assistance generally to the agents of the Indian Cotton Company.

It is of great importance that I should be able to afford information on these points to the meeting on Tuesday next.

I have, &c.

N. Forester Edwards,
Promoter, Indian Cotton Company (Limited).

— No. 26. —

From Mr. Baring to Mr. Edwards.

Sir,

India Office, 28 July 1862.

I AM directed by Secretary Sir Charles Wood to acknowledge the receipt of your letter of the 23d inst., enclosing copies of a "Preliminary Prospectus of the Indian Cotton Company," of which you are the promoter, and requesting information on certain points connected with the object which you have in view.

In reply, I am to inform you,—

1st. That in a letter from Captain Haig, dated the 8th of April last, that officer, speaking of the tramways at the three great barriers of the Godavery, expressed his opinion that the whole river and land communication would be in such a state of forwardness by the 15th of June, that traffic to a limited amount from Hingen Ghât to the coast, and *vice versa*, would be practicable; to what amount he was unable to say.

With reference to your question, the only information which has reached this office is to the effect that the Government of Madras have made arrangements for the conveyance of goods and passengers during the present season, and have sanctioned the following rates of charge:—

"For all goods carried up-stream, with the exception of a. p.
salt, which is to be charged at half the rate - - 1 6 per ton per mile.

"For all goods carried down-stream, with the exception
of unscrewed cotton, which is to be charged $\frac{1}{2}$ an
anna extra - - - - - 1 - " "

"The proportion of bulk to tonnage to be regulated according to the classification
adopted by the Chamber of Commerce.

"FOR PASSENGERS.

"Cabin, 1st class - - - - - 1 anna per head per mile.

"Deck, 2nd „ - - - - - $\frac{1}{2}$ " "

"Ditto, Native - - - - - $\frac{1}{4}$ " "

"Two hundredweight of baggage allowed to each class; all extra to be charged
at common goods' rates.

"The above to include all charges by land and water, with the exception of food
and attendance."

In reply to your third question, I am directed to state that Secretary Sir Charles Wood will be ready to instruct the Madras Government to afford every assistance and information to the agents of any company which may be formed for the purposes specified in your letter.

I am, &c.

T. G. Baring.

N. Forester Edwards, Esq.,
174, Euston Road, N.W.

From Mr. *Hammond* to the Under Secretary of State for India.

Sir, Foreign Office, 23 October 1862.

I AM directed by Earl Russell to transmit to you, for the information of Secretary Sir Charles Wood, an extract of a report which has been drawn up by one of the gentlemen attached to Her Majesty's Legation at Washington, containing observations relative to the probable amount of cotton remaining in store, or in crop, in the Southern States of North America.

I am, &c.

E. Hammond.

The Under Secretary of State,
India Office.

This letter was acknowledged, with thanks, in a letter to the Foreign Office, dated 29 October 1862.

Enclosure in No. 27.

EXTRACT.

I took every opportunity when in the cotton States and their neighbourhood of gaining the best information that I could procure respecting the amount of cotton now in the South, and the prospects of future crops. I had opportunities of conversing with planters, with commission agents, and with persons now engaged in endeavouring to procure cotton. I was also able to judge, from personal observation, of the state of the crops in the upper part of the Mississippi valley. I regret to say that, on comparing all the estimates which I obtained, and which tally wonderfully well together, I find that the result is a much less sanguine estimate than that either of Mr. Bunch or Mr. Cridland, and yet it must be remembered that the persons from whom I gained my information, all of them in some way or other immediately connected with the cotton interests, had no interest in giving me estimates under the mark. Their interests lay rather in the contrary direction. Striking an average, I find that according to the estimates I obtained, the amount of cotton in the South at the commencement of the war, was about 4,200,000 bales. This is rather above Mr. Bunch's figures. Of this it is calculated that about 1,000,000 bales have been destroyed, and that, when the ports are opened, about another million will be found to have gone from not having been properly ginned, baled, and stored. To this must also be added the amount, certainly not large, which has run the blockade, and been smuggled through the Federal lines, or which has been brought legitimately into the northern markets. At a rough estimate, the residue is calculated at 2,000,000 bales. This amount was almost invariably given to me as the amount which would be forthcoming, if the ports were to be opened immediately. There remains the crop of 1862. This is not yet picked. Its amount was estimated as being, at most, 1,000,000 bales, and it was calculated that even this small amount would be so reduced, from the impossibility of getting it picked in some districts, owing to the loss of slaves, and from the difficulty in baling and storing it, owing to the want of hemp and other necessary materials, that the supply for the market would be but trifling. I may mention here, however, that a good deal of hemp is to be obtained in the Blue Grass Region of Kentucky, now occupied by the Confederate forces. If the war goes on, no expectations are entertained of there being any crop in 1863, as the ground will be thrown into corn. I rode for miles over a cotton district in Tennessee, in which almost every field was growing corn, and I was informed that it was the same through the whole length of the valley of the Mississippi.

If my estimates are correct, there is little hope of obtaining for some time an amount of cotton from the South sufficient to supply the European market, the amount on hand being not more than sufficient for one winter, and no reserve existing to supply the deficiency when that is consumed. Even under any circumstances it would probably take the cotton cultivation some time to recover from the state of disorganization into which it has been thrown, and to approximate to its former prosperity. So gloomy were the prospects, that men of large property, owning large plantations, told me that they were hesitating whether it would not be their wisest course to sacrifice all they had, begin life over again, and carry their experience in cotton-growing and such capital as they could save or realise, to some country where they might be turned to advantage. No Southern planter, however, will admit without great reluctance the possibility of growing cotton successfully anywhere but in the Southern States of America.

I make the above remarks with considerable diffidence; but considering the vast importance of the subject, and the fact that I had peculiar opportunities of gaining information, of which I did my utmost to take advantage, I trust that they may be found not without value.

— No. 28. —

From Mr. *Merivale* to Mr. *Hammond*.

Sir,

India Office, 29 October 1862.

I AM directed by the Secretary of State for India to acknowledge the receipt of your letter of the 23d instant, enclosing extract of a report by one of the gentlemen attached to Her Majesty's Legation at Washington, relative to the probable amount of cotton in store or in crop in the Southern States of America, and I have to request that you will convey to Earl Russell Sir Charles Wood's thanks for the communication.

I have, &c.

Herman Merivale.

E. Hammond, Esq.,
Foreign Office.

— No. 29. —

From Mr. *Merivale* to Mr. *Lawrie*.

Sir,

India Office, 4 December 1862.

I AM directed by Sir Charles Wood to acknowledge the receipt of your letter of the 24th ult., soliciting that Mr. Brice, your managing director, may be supplied with a letter to the Governor of Bombay, authorising and requesting him to make over to the East India Cotton Agency Company, at the Government valuation, the property known as the Gun Carriage Factory, the sale of which you are informed is positively decided on; or, if this cannot be done, that some other piece of land, equally adapted to your present urgent requirements, may be granted to them.

2. In reply, I have to inform you, that while Sir Charles Wood will be glad to learn that the Company have succeeded in obtaining such land as they may require at Bombay for the erection of their machinery, he cannot interfere with the discretion of the Government of Bombay, but must leave the Company to make their own arrangements through their agents on the spot.

I am, &c.

Herman Merivale.

James Lawrie, Esq., E. I. Cotton Agency,
50, King William Street, E.C.

EAST INDIA (COTTON).

FURTHER RETURN to an Address of the Honourable The House of Commons,
dated 10 February 1863 ;—for,

“ COPY of any CORRESPONDENCE, from the 1st day of January 1861 to the present time, between the Secretary of State for *India*, and the Governor General or other Persons in *India*, on the subject of Cotton Cultivation in *India*, and the Prospects of SUPPLIES of that Article to this Country during the present Year.”

India Office, }
1 May 1863. }

FRAS. W. PRIDEAUX,
Secretary, Revenue Department.

ABSTRACT STATEMENT of COTTON Shipped from the Port of *Bombay* in January and February of 1863.

MONTHS.							QUANTITY.	VALUE.
							<i>Lbs.</i>	<i>£.</i>
January	-	-	-	-	-	-	28,362,335	1,468,078
February	-	-	-	-	-	-	23,588,454	1,237,557
TOTAL							51,950,789	2,705,635

India Office, }
1 May 1863. }

(signed) Chas. C. Prinsep,
Assist. Statistical Reporter.

No. 10 of 1863.—Revenue Department.

To the Under Secretary of State for India, London.

Sir,

Bombay Castle, 28 March 1863.

WITH reference to the Despatch from Her Majesty's Principal Secretary of State for India in Council, No. 1, dated 31 January last, I am directed to forward two statements of cotton shipped from the port of Bombay during the months of January and February 1863.

2. I am further desired to inform you, that similar statements are also expected from the Commissioner in Sind, which will be forwarded to you as soon as received.

I have, &c.
(signed) A. D. Robertson,
Secretary to Government.

STATEMENT of COTTON Shipped from the Port of *Bombay* during the Months of January and February 1863.

MONTH OF JANUARY.				MONTH OF FEBRUARY.			
Quantity.	Value.	By what Ship.	To what Place.	Quantity.	Value.	By what Ship.	To what Place.
<i>Lbs.</i>	£.			<i>Lbs.</i>	£.		
2,245,348	123,160	Admiral Lyons -	Liverpool.	1,099,672	75,790	Daniel Rankin -	London.
1,780,408	96,916	Charger - - -	ditto.	1,953,672	99,754	Rosalie - - -	Liverpool.
1,327,200	63,144	Helen Douglas - -	ditto.	424,900	27,025	Hyacinth - - -	ditto.
1,158,584	50,985	Jalawar - - -	ditto.	1,877,680	94,974	Palmeras - - -	ditto.
2,348,724	124,477	Arnot Lyon - - -	ditto.	1,916,516	100,819	Fanny Forsyth - -	ditto.
1,742,944	92,730	Ellen Bates - - -	ditto.	560	15	Orissa - - -	Southampton.
1,248,688	58,279	Sillery - - -	ditto.	1,958,824	105,456	Protector - - -	Liverpool.
1,913,324	98,374	Flying Venus - - -	ditto.	1,741,964	86,785	Delhi - - -	ditto.
1,293,208	65,590	Lord Brougham - -	ditto.	1,161,496	62,702	Margaret Ker - - -	ditto.
626,095	29,360	Kildone - - -	ditto.	1,443,734	75,484	Malakoff - - -	ditto.
1,739,332	88,889	Elizabeth Fry - - -	ditto.	841,820	41,915	Morning Star - - -	ditto.
2,375,184	128,485	Labrador - - -	ditto.	1,737,176	100,118	Cimbor - - -	ditto.
196,000	13,500	Star of India - - -	London.	2,414,860	111,278	Harmonides - - -	ditto.
821,716	42,740	Indian Queen - - -	Liverpool.	1,068,592	36,703	Fort William - - -	ditto.
1,124,788	58,920	Kurrachee - - -	ditto.	1,314,036	73,572	Queen of England -	ditto.
940,016	53,199	City of Carlisle - -	London.	1,164,576	60,018	Seindian - - -	London.
1,042,692	49,477	Coromandel - - -	Liverpool.	407,680	22,600	Sailor Prince - - -	St. Helena.
889,728	48,980	Clyde - - -	ditto.	1,060,696	62,549	Early Dawn - - -	Queenstown.
807,912	46,660	Richard Cobden - - -	ditto.				
1,654,212	75,653	Belgravia - - -	ditto.				
1,086,232	58,560	Agincourt - - -	Havre.				
28,362,335	1,468,078			23,588,454	1,237,557		

Bombay Custom House,
21 March 1863.

(signed) *G. Inverarity,*
Commissioner of Customs.

